

Federal Aviation Administration

National Airspace System

Capital Investment Plan

Appendix B

For

Fiscal Years 2004-2008

Federal Aviation Administration Capital Investment Plan Goal Matrix

1. **Department of Transportation (DOT) Strategic Goal: Safety:** Promote public health and safety by working toward the elimination of transportation-related deaths and injuries.

- 1.1. **Federal Aviation Administration (FAA) Strategic Goal: Safety:** Reduce fatal aviation accident rates by 80 percent in 10 years.

Strategies to Achieve FAA Goal:

Accident Prevention: Prevent accidents before they happen through appropriate, targeted, systematic interventions in the aviation system.

Safety Information Sharing and Analysis: Develop partnerships with the aviation community to share data and information supporting safe, secure aviation.

Certification and Surveillance: Develop new approaches to working with others on certification, inspection, and surveillance, and target FAA resources.

FAA Annual Performance Goals:

- 1.1.1 **Air Carrier Fatal Aircraft Rate** – By 2007, reduce the U.S. commercial aviation fatal aviation accident rate per aircraft departure from a 1994-1996 baseline of 0.051 fatal accidents per 100,000 departures. The fiscal year (FY) 2004 target is 0.028 per 100,000 departures.
 - 1.1.2 **General Aviation (GA) Fatal Aircraft Rate** – Reduce the number of general aviation fatal accidents. The FY 2004 target is no more than 349 fatal accidents.
 - 1.1.3 **Operational Errors** – Reduce the number of Category A & B (highest severity) operational errors. The FY 2004 target is no more than 629.
 - 1.1.4 **Runway Incursions** – Reduce the number and rate (per 100,000 operations) of highest risk (Category A & B) runway incursions. The FY 2004 target is no more than 47 Category A & B runway incursions, which is a rate of 0.072 of 100,000 operations.

2. **DOT Strategic Goal: Mobility:** Shape an accessible, affordable, reliable transportation system for all people, goods, and regions.

- 2.1. **FAA Strategic Goal: System Efficiency:** Provide an aerospace transportation system that meets the needs of users and is efficient in the application of FAA and aerospace resources.

Strategies to Achieve FAA Goal:

Free Flight: Within safety and environmental considerations, work toward giving aircraft the opportunity to fly in a way that gives them the most benefit as they define it.

National Airspace System (NAS) Modernization: Using the NAS Architecture as the guideline, continually refine and update the NAS to achieve efficient aerospace systems and operations.

Systems Integration: Integrate airport and commercial space requirements into NAS planning and architecture.

FAA Annual Performance Goals:

- 2.1.1. **Airport Daily Arrival Capacity** – Increase the sum of facility-set arrival rates at the 35 airports identified in the Operational Evolution Plan (OEP). The target for FY is 49,120 arrivals.
 - 2.1.2. **Airport Arrival Efficiency Rate** – Increase the percent of time arrival demand is satisfied at the 35 airports identified in the OEP to 95.49 percent in FY 2004.

2.1.3. **System Efficiency** – Increase the percentage of aircraft arriving no later than 15 minutes after the scheduled arrival time to 79.2 percent in 2004 at the 32 largest hub airports.

3. **DOT Strategic Goal: Economic Growth:** Support a transportation system that sustains America’s economic growth.

3.1. **FAA Strategic Goal: Economic Growth:** FAA also supports this DOT goal through its system efficiency goal that ensures a safe and secure aerospace system that is efficient for users.

Strategies to Achieve FAA Goal: See FAA Strategic Goal: System Efficiency: Strategies to Achieve FAA Goals.

FAA Annual Performance Goals:

3.1.1. See **FAA Strategic Goal: System Efficiency:** FAA Annual Performance Goals

4. **DOT Strategic Goal: Human and Natural Environment:** Protect and enhance communities and the natural environment affected by transportation.

4.1. **FAA Performance Goal: Human and Natural Environment:** Increase the number of people in residential communities that benefit from an airport improvement program noise compatibility project.

Strategies to Achieve FAA Goal:

Understanding Aerospace Environmental Impacts: Participate in research to understand more fully the effect of aerospace on the atmosphere and the degree of regulation necessary to minimize those impacts.

Reducing Aerospace Environmental Impacts: Use combinations of regulations, research, technology, and procedures to reduce and mitigate adverse impacts from the aerospace.

Quantifying and Mitigating Environmental Impacts of FAA activities: Assess compliance with environmental regulations; honor the mandates to clean up contamination in accordance with existing agreements; reduce the use of hazardous materials at its facilities; and promote recycling.

FAA Annual Performance Goals:

4.1.1. **Noise** - The number of people in the U.S. exposed to significant aircraft noise levels. The FY 2004 target is no more than 436,000 people.

5. **DOT Strategic Goal: National Security:** Ensure the security of the transportation system for the movement of people and goods, and support the National Security Strategy.

5.1. **FAA Strategic Goal: National Security:** Most of FAA’s security functions have been transferred to the Transportation Security Administration and this strategic goal is under review.

Strategies to Achieve FAA Goal:

Security Baseline: Continue to improve the baseline security system for FAA facilities

Information Security: Develop and implement a comprehensive information system security (ISS) program and security activities to protect the national airspace and mission support systems.

Annual Performance Goal:

5.1.1 **Information Security** – Develop and implement a comprehensive ISS program and security activities to protect the national airspace and mission support systems.

6. **DOT Strategic Goal: Organizational Excellence:** Advance the Department's ability to manage for results and innovation.

6.1 **FAA Strategic Goal: People:** Prepare the workforce for the demands of the 21st century.

Reform: Become more businesslike while increasing customer responsiveness.

Strategies to Achieve FAA Goal:

People: Implement a productive and hospitable model work environment where employees can develop to their potential and contribute fully to the organization. Contributions of all employees are supported and encouraged; discrimination and harassment have been eliminated; and the nation's diversity is reflected.

Acquisition Reform: Reform acquisition processes to make them faster, simpler, and more mission-based.

Personnel Reform: Reform personnel systems to provide increased flexibility in hiring, pay, and placement; protect employee rights; increase productivity; promote high standards of accountability; enhance the agency's intellectual capital; and create incentives for change.

Financial Reform: Reform financial systems to enable a more performance-based management approach.

FAA Annual Performance Goals:

6.1.1 Achieve a green rating for the following areas in the President's Management Agenda:

- Strategic Management of Human Capital
- Competitive Outsourcing
- Improving Financial Performance
- Expanded Electronic Government
- Budget and Performance Integration

6.1.2 Improve the FAA score on the commercial pilot segment of the American customer satisfaction index survey. The FY 2004 performance target for the FAA score on the commercial pilot segment is 63.

6.1.3 Achieve 80 percent of designated acquisition milestones for critical programs and maintain program costs in 80 percent of critical programs as published in the Capital Investment Plan.

Format of Appendix B

The sections of this appendix present multiple Facilities and Equipment (F&E) projects organized into the following format:

Budget Line Item (BLI) Number; BLI Name;

- Capital Investment Plan (CIP) Project Name #1
- CIP Project Name #2

Appendix B Format Legend

Budget Category, Line Item, and CIP Program / Projects

↓
4A02; Terminal Voice Switch Replacement;
 • Enhancement Terminal Voice Switch

Primary Goal the Program Supports

Primary Goal (s): 1.1/1.1.4

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Enhanced Terminal Voice Switch (ETVS). Improve NAS system efficiency by replacing the electromechanical and aging electronic switches at all ATCTs and TRACON facilities. Through the deployment of modern voice switches, the ETVS Program provides terminal facilities with modern reliable voice-switching capabilities, which enables efficient and effective air traffic operations.	<ul style="list-style-type: none"> Replaced an additional 24 of 212 terminal voice switches.

Program Title and Outcome Goal Description

FY 2002 Accomplishments

Program Plan FY2003 Performance Output Goals	Program Plan FY2004 Performance Output Goals	Key Events FY2005-2008 Performance Output Goals
<ul style="list-style-type: none"> Replace an additional 17 of 212 terminal voice switches. 	<ul style="list-style-type: none"> Replace an additional 21 of 212 terminal voice switches in 2004. 	<ul style="list-style-type: none"> Replace remaining 87 of 212 terminal voice switches in 2005 through 2007.

**Ongoing Activities Planned for
this Fiscal Year**

Planned 2004 Activities

**Key Events Based on Expected
Fiscal Year 2005-08 Funding**

BLIs with X in their number, for example 1A0X, represent programs ending in FY 2002 or FY 2003 and provide FY 2002 accomplishments or FY 2003 program plans or new projects not currently in the Presidents budget. Additionally, due to the significant number of CIP projects, Appendix B does not include CIP Projects under \$5 million (as long as any 1-year does not exceed \$5 million) or leases and contract support projects.

Activity 1: Improve Aviation Safety

1A01: Terminal Business Unit: 1A01A; Next Generation Weather Radar – Provide;

- **Next Generation Weather Radar – Open Systems Upgrade**
- **Medium Intensity Airport Weather System**

Primary Goal: 1.1/1.1.1, 1.1.2

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Next Generation Weather Radar (NEXRAD) Programs. Improve the NAS safety through better detection and characterization of weather intensity, which is achieved by technology upgrades to the NEXRAD systems, and by implementing medium intensity airport weather system (MIAWS) to airports with limited wind shear detection capabilities. MIAWS will be used to alert air traffic control to the severity, location, movement, and expected duration of weather conditions.		<ul style="list-style-type: none"> • Made available for operational use all 12 FAA NEXRAD sites with the open radar products generator upgrade. • Installed rotary uninterruptible power supply (UPS) at the five remaining FAA NEXRAD sites. • Made MIAWS initial investment decision-2a. • Installed prototype MIAWS at Little Rock, AR; Springfield, MO; and Jackson, MS.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005-2008 Performance Output Goals
<ul style="list-style-type: none"> • Award production contract to supply 40 airports with MIAWS. • Continue NEXRAD radar data acquisition (RDA) development. 	<ul style="list-style-type: none"> • Award production contract to supply 40 airports with MIAWS. • Begin installing NEXRAD RDA upgrade. 	<ul style="list-style-type: none"> • Complete the last FAA NEXRAD site with the radar data acquisition upgrades for operational use by 2005. • Continue MIAWS installations. • Initiate technical enhancements to MIAWS systems.

1A01: Terminal Business Unit: 1A01B; Terminal Doppler Weather Radar – Provide;

- **Terminal Doppler Weather Radar – Product Improvements**
- **Terminal Doppler Weather Radar – Service Life Extension Program**

Primary Goal: 1.1/1.1.1, 1.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Terminal Doppler Weather Radar (TDWR) – Product Improvements and TDWR Service Life Extension Program (SLEP) Programs. Increase aviation safety through accurate and timely detection of hazardous aviation weather conditions. The primary mission of the TDWR is to enhance the safety of air travel through timely detection and reporting of hazardous wind shear in and near an airport's terminal approach and departure zone by detecting microburst and gust fronts.	<ul style="list-style-type: none"> • Completed installing last 2 of 47 systems (Chicago Midway Airport and John F. Kennedy International Airport (JFK)). • Commissioned Chicago/Midway system. • Placed New York/JFK system in operational suitability demonstration phase.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005-2008 Performance Output Goals
<ul style="list-style-type: none"> Complete deployment of radar products generator rehost upgrade at 30 sites. Commission last of 47 systems at New York/JFK airport. 	<ul style="list-style-type: none"> Complete implementation of remaining product improvements, including backup communications. 	<ul style="list-style-type: none"> Continue to implement major elements of the TDWR SLEP, including elevation bull gear replacement, direct digital controller replacement, antenna motor replacement, and RDA retrofit.

1A01: Terminal Business Unit: 1A01C; Airport Surface Detection Equipment;

- Airport Surface Detection Equipment – Service Life Extension Program**

Primary Goal: 1.1/1.1.4

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
<p>Airport Surface Detection Equipment (ASDE) Model 3 Service Life Extension Program (SLEP). Provide positive ground surveillance and assistance to air traffic controllers in expediting aircraft flow during conditions of restricted visibility. The ASDE-3 radar assists the ground controller in preventing collision situations and provides orderly movement of aircraft and ground vehicles on the airport surface when visibility restrictions prevent controllers, pilots, or vehicle operators from seeing other ground traffic on the airport surface. The SLEP addresses obsolete parts issues and other parts impacting reliability and maintainability. SLEP activities will ultimately extend the useful life of the ASDE-3 at 34 high-activity airports an additional 10 years beyond the original 20-year lifecycle to 2015. Mid-life upgrade activities will improve the ability at 34 high-activity airports with the ASDE-3 to integrate its radar output with the ASDE-X processing equipment.</p>	<ul style="list-style-type: none"> Continued SLEP. Purchased and tested 80 percent of obsolete part replacements. Completed designing interim microprocessor subsystem replacement for obsolete subsystem to increase maintainability. Submitted congressionally requested Ronald Reagan Washington National Airport (DCA) relocation report. Completed an 80/20 cost estimate report for a 6-year projection for obsolete parts requirements. Awarded contract for redesigning transmitter amplifier components to correct transmitter reliability problems. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005-2008 Performance Output Goals
<ul style="list-style-type: none"> Complete relocating/reinstalling DCA ASDE-3. Complete designing obsolete microprocessor subsystem replacement. Complete design and begin procuring transmitter amplifier components. 	<ul style="list-style-type: none"> Continue implementing the SLEP through 2004, including purchasing and deploying microprocessor kits and transmitter amplifier upgrades. 	<ul style="list-style-type: none"> Continue procuring microprocessor subsystem replacement hardware and install at ASDE-3 sites as funding authority becomes available.

1A01: Terminal Business Unit: 1A01D; Airport Surface Detection Equipment – Model X;

- **Airport Surface Detection Equipment Model X**
- **Airport Surface Detection Equipment – X (Tech Refresh and Disposition)**
- **Upgrade Airport Surface Detection Equipment – 3 Sites with Multilateration/Automatic Dependent Surveillance – Broadcast for Initial 7 Sites**
- **Upgrade Airport Surface Detection Equipment – 3 Sites with Multilateration/Automatic Dependent Surveillance – Broadcast for Initial 7 Sites – ASDE 3X Tech Refresh**

Primary Goal: 1.1/1.1.4

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Airport Surface Detection Equipment (ASDE) Model X. Improve safety on the airport surface by preventing accidents resulting from runway incursions. The ASDE-X system will provide detailed coverage of runways and taxiways and will alert air traffic controllers, both aurally and visually, to potential collisions. Runway collision risks will be reduced because controllers will be provided with improved situational awareness, which will ultimately improve the safety of the nation's runways.		<ul style="list-style-type: none"> • Installed the interim contractor depot logistics support system at Hancock Airport in Syracuse, NY. • Delivered and installed system to key site (Milwaukee, WI, is the key site and Orlando, FL, is the alternate key site). • Conducted software coding, integration, and testing. • Conducted factory acceptance testing. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Complete site acceptance testing. • Complete ASDE-3X critical design review. • Complete operational testing. • Complete initial operating capability (IOC) at key site(s). • Complete final design review (FDR). • Complete in-service decision (ISD). • Conduct independent operational test and evaluation (IOT&E). • Deliver ASDE-3X prototype to Louisville, KY. 	<ul style="list-style-type: none"> • Achieve operational readiness date (ORD) at Raleigh-Durham, NC. • Achieve ASDE-3X interface ORD at Charlotte, NC. • Achieve safety logic ORD at Providence, RI. • Deliver and install 10 ASDE-X. • Deliver and install four ASDE-3 product improvement upgrades. 	<ul style="list-style-type: none"> • Deliver and install 13 sites out of 33 sites. • Achieve dual ASDE-3 radar ORD at Dallas/Ft. Worth, TX. • Achieve ASDE-3 and surface movement radar ORD at Atlanta, GA. • Achieve remote tower ORD at San Jose, CA. • Achieve dual surface movement radar ORD at Phoenix, AZ. • Achieve ORD at 28 sites out of 33 sites (includes the four mentioned above). 	

1A01: Terminal Business Unit: 1A01X1; Airport Movement Area Safety System;

- **Airport Movement Area Safety System**

Primary Goal: 1.1/1.1.4

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Airport Movement Area Safety System (AMASS). Improve runway safety at 34 high-activity airports by using AMASS's automated visual and aural alarm alerts and warnings provided as an enhancement to the ASDE-3. The enhancements aid the tower controller in preventing accidents that may result from runway incursions and other incidents.		<ul style="list-style-type: none"> • Completed test and acceptance of software build five that resolves remaining human factors open issues and improves overall system performance. • Installed 26 remote audio amplifier modifications (100 percent), which completed the final hardware installations required for commissioning. • Installed 40 computer access panel modifications (100 percent), which closed out IOT&E open item. • Started the operational suitability demonstration for 21 additional systems (57 percent).
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Start the operational suitability demonstration for 11 additional systems (87 percent). • Implement AMASS software build five for 37 systems (100 percent). 	<ul style="list-style-type: none"> • Start the operational suitability demonstration for the last of 37 systems (100 percent). • Implement software build 6 for all systems (100 percent). • Implement the data recording modification for 37 operational systems (100 percent). • Implement the Houston mosaic modification • Implement the terminal automation interface unit security modification for 40 systems and 40 spares (100 percent). 	<ul style="list-style-type: none"> • Not applicable.

1A01: Terminal Business Unit: 1A01X2; Weather Systems Processor;

- **Weather System Processor Tech Refresh/Product Improvements**

Primary Goal: 1.1/1.1.1, 1.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Airport Surveillance Radar (ASR) Weather Systems Processor (WSP). Improve aviation safety by providing air traffic controllers with warnings of wind shear and microburst events for immediate issue to pilots. The WSP, a low-cost alternative to TDWR, provides hazardous weather situational awareness for tower and terminal radar approach control (TRACON) personnel, including prediction of gust fronts and storm-cell motion that will allow improved runway reconfiguration in advance of future wind shifts.	<ul style="list-style-type: none"> • Delivered 26 systems.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Complete deployment and commissioning of all 37 systems. 	<ul style="list-style-type: none"> Not applicable. 	<ul style="list-style-type: none"> Address WSP SLEP efforts during phase IIB of ASR-9 SLEP.

1A02: Aviation Weather Services Improvements;

- 1A02A: Integrated Terminal Weather System (W07.01-00)
- 1A02X: Integrated Terminal Weather System – Corridor Integrated Weather System (W07.02-00)

Primary Goal: 1.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
Integrated Terminal Weather System (ITWS) Programs. Improve safety by the detecting, forecasting, processing, and delivering aviation weather information to pilots, airlines operations centers (AOC), and controllers. ITWS provides terminal aviation weather data and integrated products from other sensors, including TDWR, NEXRAD, low level wind shear alert system (LLWAS), and automated surface observing system (ASOS). ITWS will cover 47 high-activity airports that have significant convective weather.	<ul style="list-style-type: none"> Procured six production systems, deliver six production systems, and installed five systems. Conducted security certification for first article systems. Continued to operate prototypes. Conducted a demonstration/validation of corridor integrated weather systems with additional sensor input. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Procure six production systems, deliver six production systems, and complete seven installations. Conduct acceptance testing, continue algorithm support, and complete information security certification on production. Continue operating prototypes. 	<ul style="list-style-type: none"> Procure, deliver, and install two production systems. Conduct acceptance testing, continue algorithm support, and test, procure, and accept delivery of the software engineering environment. Continue operating prototypes. 	<ul style="list-style-type: none"> Complete production/development efforts. Begin to implement advanced capability upgrades. Replace prototypes with production systems.

1A03: Low Level Wind Shear Alert System – Upgrade;

- **Low Level Wind Shear Alert System – Upgrade to Expanded Network Configuration**
- **Disposal/Decommissioning of Low Level Wind Shear Alert System Model 2**

Primary Goal: 1.1/1.1.2

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Low Level Wind Shear Alert System (LLWAS) Programs. Monitor the airport area and alert pilots through air traffic controllers when hazardous wind shear conditions are detected. Severe wind shear/microburst conditions occurring at low altitude near airports can pose a significant threat to aircraft during takeoff or landing. Wind shear conditions are common in the United States, especially in areas with frequent thunderstorms.		<ul style="list-style-type: none"> • Delivered eight low level wind shear alert system relocation/sustainment systems (LLWAS-RS). • Made production decision for LLWAS-RS. • Made ISD for LLWAS-RS. • Completed installation at six operational sites. • Upgraded nine network expansion sites to network expansion++ sustainment configuration.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Deliver remaining 32 LLWAS-RS systems. • Complete installing 33 LLWAS-RS systems. 	<ul style="list-style-type: none"> • Complete last LLWAS-RS system installation. • Establish depot for logistics support. 	<ul style="list-style-type: none"> • Transition to operations (Operational Support Service (AOS-250)).

1A04: Aviation Safety Analysis System;

- **1A04A: Aviation Safety Analysis System**

Primary Goal: 1.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Aviation Safety Analysis System (ASAS). Improve aviation safety and security through enhanced effectiveness in safety and security regulation and oversight of the civil aviation industry by improving the automation safety and security subsystems and tools that are essential for the safety workforces to accomplish their responsibilities. Provide information technology (IT) infrastructure and develop systems to facilitate partnerships with the aviation community to share data and information supporting safe and secure aviation.	<ul style="list-style-type: none"> • Completed accident investigation quality assurance system upgrade; continued accident investigation duty room system upgrade. • Completed document imaging workflow subsystem (DIWS) automated correspondence; implemented improved telecommunication capabilities. • Completed administration and compliance tracking in an integrated office network Subsystem (ACTIONS)—CETS; implemented reporting modules (consisting of 24 reports); implemented security processes. • Completed covered position decision support subsystem (CPDSS); implemented historical search capability; implemented medication and diagnosis capabilities and an interface with a commercial medication database; implemented security processes. • Completed clinical health awareness program support (CHAPS), updating visit procedures; modified lobby login module; modified reports; displayed shot record and immunization history on screen; showed visit/follow-ups; identified individuals for follow-up procedures. • Acquired infrastructure and lifecycle replacing information technology resources and communication equipment. • Deployed airworthiness directives, notices of proposed rulemaking (NPRMs), Orders,

	<p>Exemptions, special federal air regulation (SFARs), and special conditions to the regulatory guidance library (RGL).</p> <ul style="list-style-type: none"> • Completed requirements phase of certificate management information system. • Deployed project activity file workflow process and policy database. • Fulfilled hardware requirements for national deployment of the parts reporting system. • Implemented a limited production operations specifications sub system solution with additional air carriers. • Developed a Web-based data collection and analysis system for air carrier airport inter reporting system. • Developed and implemented an information system for background checks. • Completed joint vulnerability analysis system. • Developed, tested, and implemented the automated exemption system and integrated rulemaking management information system (IRMIS) 2.0.
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Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Perform DIWS—application enhancements, analysis and design of airman medical examiner (AME) Internet data validation, and analysis of airman to access status information; begin implementing improved telecommunication capabilities and begin identifying, acquiring, and implementing improved viewing equipment. • Perform ACTIONS application enhancements; reengineer analysis and design of compliance assessment reporting system (CARS); integrate CARS data into CETS; and analyze and design reporting modules (for CARS). • Perform CPDSS application enhancement, analysis and design maintenance procedures for interface control document (ICD)-X and AME. • Perform CHAPS enhancement, analysis and design an interface with ICD-X codes and CHAPS diagnosis codes, and analysis and design information retrieval from the Cholestec machines. • Complete DRS upgrade; initiate National Transportation Safety Board recommendations system upgrade. • Deploy airmen certification rating application along with enhancements and database integration with other FAA systems. • Adopt Denver EPS system to replace aircraft certification subsystem as interim solution prior to FY 2003 rehost of ACOS. • Deploy designee information network functionality to select 	<ul style="list-style-type: none"> • Complete the President’s Management Plan for performance by integrating IRMIS with the mainframe historical Federal aviation regulations; migrate the mainframe historical Federal Aviation Regulations into the RGL—providing a link from one system to the other; and incorporate user and management functionality for these systems into IRMIS. • Perform DIWS planned system development, analysis and design of AME Internet data-printing capabilities. • Perform ACTIONS planned system development, develop user manual for CARS, and nationally deploy the system. • Perform CPDSS planned system development and analysis and design of a medical knowledge base procedure. • Perform CHAPS planned system development, reengineer personnel computer (PC) based system to a Web-based system analysis and design. • Deploy Office of Certification AVR-wide software. • Work on implementing the FAA IdMedia system. 	<ul style="list-style-type: none"> • Complete NRS upgrade; initiate accident investigation system consolidation. • Complete DIWS/phase VII and VIII planned enhancements: complete air carrier/airport information reporting system/system development—additional modules; aviation security data repository, technical remote support, and operational systems.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<p>and appointment designees online.</p> <ul style="list-style-type: none"> • Implement enhancements to integrated planning and budgeting system (IPBS). • Develop and Web-enable CARs, Joint Aviation Regulation, and Safety/STCs into RGL. • Incorporate Airport ACs into RGL. • Continue to develop enhancements in the facility security reporting system, the fingerprinting processing system, the crisis management system, and the joint vulnerability analysis system. 	<ul style="list-style-type: none"> • Continue developing and implementing the personnel access security system, a national access control and personnel directory. • Continue developing and implementing the security and investigations information retrieval system, a repository of documents relating to security functions. 	

1A05: Integrated Flight Quality Assurance;

- **Integrated Flight Quality Assurance**

Primary Goal: 1.1/1.1.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>Integrated Flight Quality Assurance (IFQA) System. Develop and implement electronic capability for collecting and analyzing aggregate digital flight data from airline operations. The IFQA system will develop a secure Internet-based FAA electronic data acquisition and information infrastructure. Implementation will enable the FAA to access airline flight operational quality assurance (FOQA) trend data for NAS oversight purposes, as well as for use in formulating FAA policy and decision-making to improve safety.</p>	<ul style="list-style-type: none"> • Continued technical infrastructure design and development to accommodate growth. • Continued operational test and evaluation (OT&E) of system. • Developed user, administrator, and system documentation and training materials. • Achieved IOC of IFQA system (support for 10 air carriers). • Deployed offsite mirror site and FAA hot backup. • Continued refining ISS capability for emerging threats.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue developing hardware, communication, and technical infrastructure to accommodate growth (35 air carriers). • Implement FOQA training course for aviation safety inspectors. • Implement Web-based training materials and user aids. • Continue developing statistical indices for airline aggregate data submissions. • Continue designing and developing IFQA system data warehouse, data marts, and 	<ul style="list-style-type: none"> • Continue designing and developing expanded IFQA system data warehouse, data marts, template library, and metadata repository. • Evaluate and verify usability of initial deployment of maintenance and engineering applications. • Initiate development and implementation of techniques to support spatial analysis and advanced visualization. • Implement preplanned product improvements (P3I). 	<ul style="list-style-type: none"> • Achieve 100 percent development and implementation of maintenance and engineering applications. • Evaluate and verify usability of initial deployment of spatial analysis and advanced visualization applications. • Implement IFQA system training course for aviation safety inspectors. • Initiate development and implementation of techniques to supply near real-time alerts. • Initiate development and implementation of advanced search and analysis techniques. • Continue designing and developing expanded IFQA

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
metadata repository. <ul style="list-style-type: none"> Initiate separate FOQA applications for maintenance and engineering purposes. 	<ul style="list-style-type: none"> Continue implementing user aids, documentation, FOQA training course, and training materials for P3I releases. Initiate development of IFQA system training course for aviation safety inspectors. 	system data warehouse, data marts, template library, and metadata repository. <ul style="list-style-type: none"> Implement P3I. Continue implementing user aids, documentation, and training materials for P3I releases.

1A06: System Approach for Safety Oversight;

- System Approach for Safety Oversight**

Primary Goal: 1.1/1.1.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
System Approach for Safety Oversight (SASO). Improve safety by implementing new approaches to certification, inspection, and surveillance activities with integration of Flight Standards Service (AFS) tools and databases. This system will provide a comprehensive set of analytical tools to allow targeted inspections and actions in areas of highest potential vulnerability and probability of hazard.		<ul style="list-style-type: none"> Not applicable.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Not applicable. 	<ul style="list-style-type: none"> Assess the current status and identify the shortfalls of systems, AFS business processes, and aviation regulations and environment for Federal Aviation Regulation Part 121, 137, 142, and 119 operators. Establish and maintain an outreach program to inform and involve all interested parties in the SASO program. Establish and maintain an effective collaborative product team. Develop initial automation requirements. 	<ul style="list-style-type: none"> Develop system safety business processes. Develop risk metrics. Develop supporting analysis/decision tools. Integrate tools and databases.

1A07: Aviation Safety Knowledge Management Environment;

- **Aviation Safety Knowledge Management Environment:**

Primary Goal: 1.1/1.1.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Aviation Safety Knowledge Management Environment. Provide Aircraft Certification Service (AIR), a repository of critical safety technical information and data, and a set of knowledge management and analysis tools for knowledge collection, dissemination, and analysis. These tools will be integrated into critical AIR business functions to support proactive monitoring and analysis of safety-related data; expedited aircraft design and production approval decisions; improved collaboration between program/project management, inspectors, and engineers; and knowledge transfer capabilities.		<ul style="list-style-type: none"> • Not applicable.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Not applicable. 	<ul style="list-style-type: none"> • Conduct system functional requirements gathering and analysis for knowledge management, safety analysis, and electronic file system. • Conduct system functional requirements gathering and analysis for two of AIR operational functions within its certification and regulation responsibilities. 	<ul style="list-style-type: none"> • Define, design, develop, and implement AIR's automation of the airworthiness directive development process. • Design, develop, and implement AIR's knowledge management/integrated safety management and analysis tools. • Define and design AIR's integrated workload tracking requirements into its certification activities.

1A0X1: Safety Performance Analysis System;

- **Safety Performance Analysis System**

Primary Goal: 1.1/1.1.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Safety Performance Analysis System (SPAS). Improve safety by providing aviation safety inspectors (ASI) with an automated tool to assist them in targeting critical areas for inspection. This system provides the capability to target certificate holders that pose a greater safety risk, thus dynamically modifying the surveillance work program. It also allows the FAA to monitor the status of aging aircraft, track the growing number of aircraft operations, and increase industry accountability for aviation safety.	<ul style="list-style-type: none"> • Incorporated air transportation oversight system (ATOS) data repository into SPAS. • Included ATOS data in SPAS data arrays, profiles, and query and browse. • Developed and implemented repair station risk model.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Develop aircraft alias database. • Develop air operator analysis model. • Develop management profile. • Develop enhanced drill down. • Develop ATOS safety attribute inspection and element performance inspection summaries. 	<ul style="list-style-type: none"> • Last year of funding was FY 2003. 	<ul style="list-style-type: none"> • Not applicable.

1B01: Safe Flight 21;

(A) Safe Flight 21 – Alaska Capstone Initiative

(B) Safe Flight 21 – Ohio Valley Prototype Project

(C) Automatic Dependent Surveillance Broadcast – Advanced Technology Development and Prototyping

(A) Safe Flight 21 – Alaska Capstone Initiative

Primary Goal: 1.1/1.1.1, 1.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>Safe Flight 21 – Alaska Capstone Initiative. Reduce the number and rate of accidents and fatalities and amount property damage, and improve aviation safety in Alaska by integrating interdependent technologies. Capstone provides an improved ground and air infrastructure that furnishes pilots with better information about the location and severity of hazardous weather, proximity to terrain, improved instrument approaches to small airports, and traffic information to reduce mid-air collisions. Additionally, Capstone provides improved surveillance information to controllers to assist in sequencing, separation, flight following, and search and rescue activities. A more useable instrument flight rules (IFR) infrastructure will be provided to enable lower en route and approach/departure routes.</p>	<ul style="list-style-type: none"> • Completed phase I (Bethel core) ground broadcast transceivers installations. All units are operational and provide either traffic information to the en route air route traffic control center (ARTCC) or weather information to the pilots. • Purchased enhanced terrain avoidance avionics and installed the first system in the University of Alaska Cessna 172 as part of risk reduction for future installations for participating aircraft in southeast Alaska scheduled to begin early 2003. • Installed automatic dependence surveillance-broadcast (ADS-B) display in Bethel tower to increase controller situational awareness. • Obtained Joint Resources Council (JRC) decision to harden phase I (Bethel core) systems and equipment and obtain operations and maintenance funding. • Defined surveillance requirements and concept of operations for Juneau area of southeast Alaska. • Obtained approval to use global positioning system (GPS) as a primary means of navigation and began developing applicable approaches for airports in southeast Alaska, which will also incorporate use of wide area augmentation system (WAAS) technology with Capstone avionics in southeast Alaska. • Installed and commissioned additional automated weather observing systems (AWOSs).

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Purchase and begin installing ADS-B avionics in participating aircraft in southeast Alaska. • Begin installing enhanced terrain avoidance avionics in participating aircraft in southeast Alaska. • Begin installing ADS-B ground-based transceivers in southeast Alaska. • Based on surveillance requirement and concept of operations, determine surveillance approach (e.g., multilateration, radar, etc.) for Juneau area of southeast Alaska. • Establish approach/terminal services at Juneau International Airport. • Enhance the phase I (Bethel) demonstration area by installing and commissioning additional AWOSs. • Upgrade the phase I ground broadcast transceivers to provide for simultaneous 2-way link for traffic information to the ARTCC and weather information to the pilots. • Obtain JRC decision to harden phase II (southeast Alaska) systems and equipment and obtain operations and maintenance funding. 	<ul style="list-style-type: none"> • Begin expansion of ADS-B ground stations, AWOS, and surveillance coverage for the remainder of the state. 	<ul style="list-style-type: none"> • Continue expansion of ADS-B ground stations, AWOS, and surveillance approach for statewide Alaska.

(B) Safe Flight 21 – Ohio Valley Prototype Project

Primary Goal: 2.1/2.1.1, 2.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>Safe Flight 21 – Ohio Valley Prototype Project. Improve flight route flexibility and reduce delays by using automatic dependence surveillance-broadcast (ADS-B) technology to achieve user-preferred routes and to maximize airspace and airport resources. ADS-B will serve as enabling technology for free flight capability in the NAS.</p>	<ul style="list-style-type: none"> • Completed developing call sign procedure using ADS-B for trial use in Louisville, KY. • Completed developing concept of use and business case for approach spacing and enhanced visual approach applications. • Supported effort to obtain supplemental-type certificate approval for surface moving map functionality on those aircraft with cockpit display of traffic information (CDTI) displays (working in conjunction with United Parcel Service Airline). • Conducted test and evaluation surveillance and information system contract efforts with avionics vendors to support dual-link interoperability between ADS-B links. • Surveyed 60 airports in the NAS to build map database in support of surface moving map functionality (working in conjunction with national geodetic survey). • Conducted testing of broadcast services using ASDE-X infrastructure. • Began development for integrating ADS-B and standard terminal automation replacement system (STARS).

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Obtain NAS change proposal approval for radar-like separation services, using ADS-B on Common automated radar terminal system (ARTS). • Continue development for integrating ADS-B and multilateration onto STARS. • Continue activities associated with developing and using procedures for CDTI and electronic flight rules in the terminal environment to allow descents through marine layers, etc. • Continue activities associated with developing surface moving map applications to include own vehicle positions on surface vehicles for situational awareness. • Begin activities associated with developing situational awareness tools for ADS-B equipped aircraft in the small airport environment. • Continue activities associated with providing real-time data feeds to the AOCs. 	<ul style="list-style-type: none"> • Continue development for integrating ADS-B and multilateration onto STARS. • Continue activities associated with developing and using procedures for CDTI and electronic flight rules in the terminal environment to allow descents through marine layers, etc. • Continue activities associated with developing surface moving map applications to include position and ADS-B-reported position of other aircraft/vehicles. • Continue activities associated with developing situational awareness tools for • ADS-B-equipped aircraft in the small airport environment. • Continue coordination to ensure ADS-B requirements are incorporated into en route automation modernization (ERAM). • Continue activities associated with providing “real-time” data feeds to include enhanced traffic management system (ETMS) and to support AOC decision tools. 	<ul style="list-style-type: none"> • Expand development and feasibility exploration of ADS-B applications in the en route and oceanic domains. • Continue coordination and begin development for integrating ADS-B and en route automation system. • Work to transition broadcast services for certified use at all ASDE-X locations (in conjunction with the ASDE-X Program). • Explore strategies for integrating CDTI functionality into glass cockpit aircraft. • Complete development for integrating ADS-B and STARS. • Complete activities associated with surface moving map applications to provide traffic information service-broadcast (TIS-B) on both aircraft and vehicles. • Continue activities associated with providing real-time data feeds to include ETMS and to support AOC decision tools.

(C) Automatic Dependent Surveillance Broadcast – Advanced Technology Development and Prototyping

Primary Goal: 1.1/1.1.1, 1.1.2, 1.1.4

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Automatic Dependent Surveillance Broadcast (ADS-B) – Advanced Technology Development and Prototyping (ATDP). Improve aviation safety by developing system standards for ADS-B technology in terminal, en route, and oceanic airspace, as well as on the airport surface. Developing domestic (RTCA) and International Civil Aviation Organization (ICAO) ADS-B performance standards through rigorous testing, simulation, and analysis will enhance surveillance for the pilots and controllers and overall system safety.	<ul style="list-style-type: none"> • Completed RTCA universal access transceiver (UAT) minimum operations performance standards (MOPS). • Completed RTCA airborne separation assurance minimum aviation system performance standards (MASPS) for four ADS-B applications. • Completed Revision A of ADS-B MASPS. • Completed baseline MASPS for TIS-B • Completed Revision A of 1090 MHz ADS-B MOPS.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete baseline RTCA MOPS for airborne surveillance and separation assurance processing (ASSAP). • Complete Revision A of TIS-B MASPS. • Complete integrating CDTI and airborne surveillance and separation assurance MOPS into a single document. 	<ul style="list-style-type: none"> • Begin UAT ICAO standards and recommended practices. • Begin additional revisions of TIS-B MASPS for more ADS-B applications. • Begin additional revisions of airborne separation assurance minimum aviation system performance standard (MASPS). • Begin additional revisions of ASSAP MOPS for more ADS-B applications. 	<ul style="list-style-type: none"> • Complete UAT ICAO standards and recommended practices. • Complete additional revisions of TIS-B MASPS for more ADS-B applications. • Complete additional revisions of ASSAP MASPS. • Complete additional revisions of ASSAP MOPS for more ADS-B applications.

1C01: Advanced Technology Development and Prototyping;

(A) Separation Standards

(B) Runway Incursion Reduction Program

(C) System Capacity, Planning, and Improvements

(D) Operations Concept Validation

(E) Software Engineering Resource Center

(F) Airspace Management Laboratory

(H) General Aviation /Vertical Flight Technology

(J) Safer Skies

(A) Separation Standards – Advanced Technology Development and Prototyping

Primary Goal: 2.1/2.1.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Separation Standards – Advanced Technology Development and Prototyping (ATDP). Improve oceanic system efficiency through introduction of reduced separation standard values in horizontal and vertical planes. Reduced separation standard values permit more aircraft to operate on fuel- and time-optimal routings during the oceanic phase of flight. Increased system capacity following from introduction of reduced separation standard values, as measured by availability of more fuel- and time-efficient routings, induces reduction in delays of oceanic flights at origin airports because increased system capacity allows more on-time departures.	<ul style="list-style-type: none"> • Initiated safety oversight of Gulf of Mexico and West Atlantic airspace in connection with implementing reduced lateral-separation parallel ATS routes (T-Routes and Q-Routes) (10/01). • Implemented West Atlantic Route System reduced vertical separation minimum (RVSM) (11/01). • Completed safety assessment, readiness assessment, and international documentation to support Western Pacific/South China Sea RVSM implementation (01/02). • Implemented Western Pacific/South China Sea RVSM (02/02). • Conducted RVSM seminar for Caribbean/South American Regions (CAR/SAM) RVSM (08/02).

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Conduct training for RVSM regional monitoring agency for CAR/SAM Regions (10/02). • Conduct seminar for states and operators planning to participate in GOM/CAR RVSM (6/03). • Develop air traffic control operational concept for application of 30-nautical mile (nmi) lateral and longitudinal separation standards in FAA-administered oceanic airspace based on deployed FAA oceanic automation system, controller-pilot data link communications (CPDLC) and ADS (6/03). • Monitor 200 aircraft in connection with application of RVSM airworthiness approval process in North Atlantic and Pacific and with Pacific long-term monitoring requirements. 	<ul style="list-style-type: none"> • Expand use of 50-nmi separation standard based on CPDLC in Pacific airspace (12/03). • Complete analysis of operator equipment and planning for operational trial of 30-nmi lateral and longitudinal separation standards in portion of FAA-administered Pacific airspace (12/03) • Publish operator approval criteria for ADS-based 30-nmi lateral and longitudinal separation standards in portion of FAA administered Pacific airspace (06/04). • Begin pre-operational trial data collection for 30-nmi separation standards in Pacific (07/04) • Complete preliminary readiness and safety assessments for CAR/SAM RVSM (09/04) • Monitor 200 aircraft in connection with Asia Pacific RVSM requirements (09/04). 	<ul style="list-style-type: none"> • Implement CAR/SAM RVSM (12/04). • Implement operational trial of ADS-based 30-nmi lateral and longitudinal separation standards in FAA-administered Pacific oceanic airspace (03/05). • Begin work on horizontal-plane separation minima below 30-nmi for ICAO separation and airspace safety panel (05/06). • Expand use of 30-nmi lateral/longitudinal separation standards to wider area of Pacific (12/06). • Begin operational trial of horizontal-plane separation standard values below 30-nmi in selected portion of Pacific (03/08).

(B) Runway Incursion Reduction Program – Advanced Technology Development and Prototyping

Primary Goal: 1.1/1.1.4

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
Runway Incursion Reduction Program (RIRP) – Advanced Technology Development and Prototyping (ATDP). Reduce the number and rate of runway incursions and improve surface safety at NAS airports through research, development, demonstration, and evaluation of new and emerging methods, procedures, and technologies.	<ul style="list-style-type: none"> • Continued research on potential technology solutions for small- to medium-sized airports • Completed the operational evaluation of microwave motion sensors integrated with the pavement light-emitting diode light strip at Eppley Airport. • Conducted testing of runway status lights data fusion and safety logic subsystems. • Developed procedures, education, training, and airport improvements to reduce runway incursions. • Completed site surveys at 14 high runway incursion non-ASDE airports. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue research on potential technology solutions for small- to medium-sized airports. • Complete the technical and operational evaluation of runway status lights program. • Develop performance standards/requirements for selected runway incursion reduction technologies. 	<ul style="list-style-type: none"> • Continue research on potential technology solutions for small- to medium-sized airports • Continue developing performance standards/requirements for selected runway incursion reduction technologies. 	<ul style="list-style-type: none"> • Continue research on potential technology solutions for small- to medium-sized airports. • Continue developing performance standards/requirements for selected runway incursion reduction technologies.

(C) System Capacity, Planning, and Improvements – Advanced Technology Development and Prototyping

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>System Capacity, Planning, and Improvements – Advanced Technology Development and Prototyping (ATDP). This program supports the agency’s efforts to foster a performance-based organization by doing the following: (1) implementing a performance measurement tool that translates the organizations vision/mission and strategies into a set of performance indicators that are linked to activities and initiatives; (2) developing and expanding a computer-based tool that will collect, process, compute, analyze, and report performance-related data; (3) serving as the lead office for developing the Air Traffic Operations (ATO) metrics, which determines system performance in the areas of accessibility, efficiency, predictability, and flexibility.</p>	<ul style="list-style-type: none"> • Developed prototype plan for en route balance scorecard at the following sites: Indianapolis, Memphis, and Atlanta ARTCCs. • Developed en route cost and performance causal models. • Developed and populated Oracle software en route balance scorecard Web site. • Developed facility-level metrics (performance data analysis and reporting system) in support of system-level Government Performance and Results Act metrics. • Completed installing the performance data analysis and reporting system at all ARTCCs and major TRACONs Facilities within the western Pacific and southwest regions. • Developed and revised ATS customer performance metrics in support of Government Performance and Results Act. • Completed ATS performance plan supplement. • Completed executive summary and technical reports compact disc for the O’Hare- delay task force. • Completed capacity enhancement plan report for Washington Dulles International Airport design team study. • Completed the 2001 Aviation Capacity Enhancement Plan. • Completed phase I—simulation and analysis work for the Portland capacity enhancement task force to determine the most cost/benefit solution for airport improvement. • Completed initial developing the random navigation/area navigation capability that analyzes departure and arrival flight paths in the terminal area, and assesses the feasibility of proposed en route flight paths. • Completed the modeling of the along track separation procedure that established the boundaries for both collision and wake turbulence risks of the procedure.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<p>I. NAS Performance Measurement</p> <ul style="list-style-type: none"> • Initiate integration of terminal and en route balance scorecard to generate a parallel between strategy and performance in the regions and facilities. • Initiate the development of an overall ATS/ATO-based balance scorecard. 	<p>I. NAS Performance Measurement</p> <ul style="list-style-type: none"> • Continue developing and integrating the en route/terminal balance scorecard. • Refine facility level metrics tool to incorporate system enhancements and automated reporting. • Continue role as lead support for evolution of 	<p>I. NAS Performance Measurement</p> <ul style="list-style-type: none"> • Finalize integration of the ATS/ATO balance scorecard into ATS. • Initiate integration of facility level metrics into system level. • Revise safety and operational efficiency metrics in support of the ATO.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Develop en route capacity metrics to complement airport benchmark activity. • Provide primary analytical support for developing performance metrics for the new ATO. • Initiate development of Airway Facilities (AF) metrics into the facility. II. Airport Development <ul style="list-style-type: none"> • Complete 2003 aviation capacity enhancement plan. • Formulate a procedures/collision risk model for JFK, Los Angeles International, and Indianapolis airports for the new large aircraft program. III. Capacity Improvement Opportunities <ul style="list-style-type: none"> • Carry out OEP initiative—model effect of airspace redesign on carriers at Houston Airport. • Develop GPS scientific data for flight standards certifying procedures development. • Conduct San Francisco International Airport (SFO) Bay system analysis at Oakland International and San Jose (SJC) Airports. IV. Architecture Deployment Support <ul style="list-style-type: none"> • Participate in developing the simultaneous offset instrument approaches procedures at Lambert St. Louis International Airport 	<p>safety and efficiency metrics for the ATO.</p> <ul style="list-style-type: none"> • Conduct the small aircraft transportation system demonstration at Manassas Regional, Blacksburg, and Daytona Beach. • Expand AF metrics throughout the network. II. Airport Development <ul style="list-style-type: none"> • Formulate a procedures/collision risk model for SFO, Alaska-Anchorage, and ORD Airports for the new large aircraft program. • Complete 2004 Aviation Capacity Enhancement Plan. • Complete regional jets modeling for airports in the eastern and central regions to maximize airport capacity. III. Capacity Improvement Opportunities <ul style="list-style-type: none"> • Support development, promotion, demonstration, and implementation of capacity enhancements. IV. Architecture Deployment Support <ul style="list-style-type: none"> • Support implementation of required navigation performance (RNP) standard operations at SFO, Oakland International, SJC, and DCA Airports. 	<ul style="list-style-type: none"> • Evaluate en route capacity metric to formulate recommendations to improve the NAS. • Conduct the small aircraft transportation system demonstration at the following sites: Cleveland Hopkins International Airport, Langley AFB, and Moffett Federal Airfield. II. Airport Development <ul style="list-style-type: none"> • Formulate a procedures/collision risk model for Miami, Newark, and Oakland Airports for the new large aircraft program. • Continue Aviation Capacity Enhancement Plan development. • Support the capacity benchmark through analysis at pacing airports. • Complete regional jets modeling for airports in the Western Pacific region. III. Capacity Improvement Opportunities <ul style="list-style-type: none"> • Mitigate capacity impacts of wake turbulence. IV. Architecture Deployment Support <ul style="list-style-type: none"> • Conduct benefit assessment of RNP standards.

(D) Operations Concept Validation – Advanced Technology Development and Prototyping

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Operations Concept Validation – Advanced Technology Development and Prototyping (ATDP). Develop and deliver validated operational concepts to identify the transition steps in NAS Modernization and support developing the NAS Architecture and new operational requirements.		<ul style="list-style-type: none"> • Developed detailed scenarios of operational changes in support of architecture and research requirements. • Conducted a comparison of traffic flow management (TFM) techniques (Europe and the United States). • Established a validation data repository for reuse of experimental data and results. • Delivered an analysis of the core factors related to common trajectory. • Developed detailed workload assessments of traffic situations for use in validating density concepts and alerts for collaborative decision making (CDM) and TFM products. • Develop concept for and analysis of separation normalization (3 miles everywhere). 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Deliver an information model to translate concept into NAS interface requirements. • Complete study of the technical and human factor parameters in using flight strip replacements. • Deliver concept of use for future of TFM. Deliver concept of use for management by trajectory. • Develop concept and measures for required total system performance, extending ICAO concept. 	<ul style="list-style-type: none"> • Expand high altitude concept through analysis (strategies for point-to-point—no verbal exchange of latitude/longitude nor inclusion in flight plans (cognitive and situational awareness issues)). • Conduct analysis and develop concept for change in cross-facility coordination (terminal and en route) • Provide capability to model air traffic management (ATM) influences (strategic simulator). 	<ul style="list-style-type: none"> • Develop and demonstrate the concept for dynamic resectorization for just-in-time delivery of capability with ERAM deployment. • Conduct evaluations and demonstrations on the complementary human performance, controller roles and acceptance for the increased functionality supported by delivery of ERAM, TFM, etc., in support of capacity enhancements and efficiency. 	

(E) Software Engineering Resource Center – Advanced Technology Development and Prototyping

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Software Engineering Resource Center (SERC) – Advanced Technology Development and Prototyping (ATDP). Reduce the cost of delivering IT services without reducing service quality, and acquire and maintain critical IT knowledge, skills, and abilities.		<ul style="list-style-type: none"> • Brought together recognized experts and FAA personnel to solve software problems • Evaluated/validated improved software processes, methods, and engineering tools • Improved and modernized FAA software engineering skills and capabilities. • Investigated through research and prototyping better and cheaper ways to ensure that NAS hardware and software are safe, reliable, secure, and efficient. • Adapted NAS systems more rapidly and correctly. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Bring together recognized experts and FAA personnel to solve software problems. • Evaluate/validate improved software processes, methods, and engineering tools. • Improve and modernize FAA software engineering skills and capabilities. • Develop standards and guidelines for commercial-off-the-shelf/non-development items (COTS/NDI) software to improve system cost estimation. • Investigate through research and prototyping better and cheaper ways to ensure that NAS hardware and software are safe, reliable, secure, and efficient. • Modernize obsolete IT infrastructure elements in headquarters and the regions. • Ensure development of effective Web-based service delivery capabilities in support of the electronic government (e-Gov) initiatives. 	<ul style="list-style-type: none"> • Bring together recognized experts and FAA personnel to solve software problems. • Develop procedures that define, refine, and streamline in order to get software products and services fielded faster and cheaper • Support continuation of applied research and prototyping of advanced Air Traffic-related adaptation data management services. • Improve the process for acquiring software-intensive systems integrated with COTS/NDI products. • Explore and develop new ways to reduce costs in selected NAS domains through application of technology in support of the e-Gov initiatives. • Increase the business value targets of e-Gov to ensure that the aeronautical and adaptation data used to conduct critical agency business, or for public dissemination, are timely, accurate, accessible, understandable, and secure. 	<ul style="list-style-type: none"> • Bring together recognized experts and FAA personnel to solve software problems. • Evaluate/validate improved software processes, methods, and engineering tools. • Improve and modernize FAA software engineering skills and capabilities. • Increase the business value targets of e-Gov to ensure that the aeronautical and adaptation data used to conduct critical agency business, or for public dissemination, are timely, accurate, accessible, understandable, and secure. • Investigate through research and prototyping better and cheaper ways to ensure that NAS hardware and software are safe, reliable, secure, and efficient. • Modernize obsolete IT infrastructure elements in headquarters and the regions. • Improve standards and guidelines for COTS/NDI software system cost estimation. • Develop standards and guidelines for COTS/NDI software/system assurance. • Develop standards and guidelines for certifying safety critical software-intensive systems. 	

(F) Airspace Management Laboratory – Advanced Technology Development and Prototyping

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Airspace Management Laboratory – Advanced Technology Development and Prototyping (ATDP). Improve NAS efficiency by providing the data, metrics, and tools to analyze traffic and airspace configuration to optimize traffic flows through sector design and analysis using historical and projected traffic loads.		<ul style="list-style-type: none"> • Completed deployment of first-generation obstruction evaluation legacy system to all FAA regions. • Completed replacing legacy sector design analysis tool (SDAT) functionality on to the PC platform; began integrating data services into SDAT. • Began higher resolution traffic repository for national airspace redesign analysis and deployment of data as an integrated service to SDAT. • Began Web-based airspace metrics. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Expand obstruction evaluation system to handle workflow requirements of non-air traffic divisions. • Enable public to enter obstruction evaluation–airport/airspace analysis (OE-AAA) case. • Expand SDAT coverage to include advanced functionality for terminals and TRACONS. • Integrate noise analysis tools as service to SDAT. • Extend next-day drill-down capabilities of airspace metrics to cover FAA points of delivery from terminal to center. 	<ul style="list-style-type: none"> • Initial external site for public submission of OE-AAA form 7460. • Integrate FAA waiver and violators data systems. • Integrate NASR and OE-AAA geo-spatial systems. • Streamline public access for NASR and OE –AAA systems using Web-enabled technologies. • Integrate weather and navigational aids (NAVAID) facility status with data systems and metrics. • Enhance collection and distribution of the traffic-based metrics throughout FAA and public. • Develop airspace structure configuration management system to support regional and facility airspace design. 	<ul style="list-style-type: none"> • See paperless OE-AAA processing from public entry through workflow processing to resolution. • Enable all FAA-connected facilities to be capable of analyzing local airspace and traffic issues using a single integrated system. • Standardize security, workflow, and processing for all airspace management processes. • Evaluate performance (using airspace metrics) of advanced drill-down capabilities for all FAA points of delivery from terminal to center. 	

(H) General Aviation/Vertical Flight Technology – Advanced Technology Development and Prototyping

Primary Goal: 1.1/1.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
General Aviation (GA)/Vertical Flight (VF) Technology – Advanced Technology Development and Prototyping (ATDP). Reduce GA accident rate by integrating new navigation, communication, and surveillance technology; improved avionics, and aircraft performance capability, in addition to airman training requirements. This will enable a greater number of GA and VF aircraft to receive IFR services and to enable visual flight rules (VFR) aircraft to navigate with a higher level of precision and awareness of the proximity of other aircraft and obstacles.	<ul style="list-style-type: none"> • Conducted flight tests to ascertain maximum descent angles for visual segment of helicopter instrument approaches. Data will be used for terminal instrument procedures (TERPS) criteria and helicopter instrument flight rule (IFR) certification procedures. • Developed initial procedure design for simultaneous non-interfering (SNI) operations in terminal areas. Coordinated procedure development work with Eastern Region staff. • Developed procedures for flight locating (Code of Federal Regulations Part 135.79 requirement) using Safe-Flight 21 concepts. • Completed helicopter instrument landing systems (ILS) lighting simulation evaluation report.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Initiate helicopter steep-angle approach and departure TERPS criteria work. • Complete criteria and standards for revising helicopter ILS lighting standards. • Plan and initiate a demonstration of SNI procedures in the Northeast corridor. Conduct a simulation of SNI procedures to optimize route design. • Initiate research into heliport lighting for instrument operations. Conduct survey into new technology for VFR heliport lighting. • Initiate testing of currently available synthetic vision technology to enhance light general aviation safety. • Complete plan for aircraft regulatory work required for implementing elements of Safe Flight 21. 	<ul style="list-style-type: none"> • Refine Northeast corridor SNI demonstration using WAAS-derived separation standards and the results of simulating procedures to optimize design of routes. • Continue developing complex and steep angle approach and departure criteria for vertical flight aircraft. • Complete research into IFR heliport lighting and new technology for lighting VFR heliports. • Develop Flight Standards guidance materiel for use of enhanced vision equipment and ground proximity equipment for light general aviation aircraft. 	<ul style="list-style-type: none"> • Complete helicopter steep-angle approach and departure TERPS criteria work. • Develop helicopter TERPS for safe, reduced noise segmented approaches. • Develop improved lighting systems for heliports. • Complete SNI demonstration in the northeast Corridor and publish SNI criteria and procedures. • Plan and complete an SNI demonstration in a second major hub area. • Complete aircraft regulatory criteria for small aircraft moving map displays, synthetic displays, and enhanced vision.

(I) Safer Skies

Primary Goal: 1.1, 1.1.1, 1.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
Safer Skies. Improves safety by analyzing causes of accidents and developing and implementing intervention strategies to prevent or reduce factors that are the leading causes of aviation accidents. Safer Skies has identified the major types of accidents and evaluated pilot actions and equipment failures that lead to the major types of accidents. With this information, corrective actions can be developed and evaluated that will reduce accident rates.	<ul style="list-style-type: none"> • Not applicable. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Develop criteria for WAAS/LAAS airplane and helicopter TERPS. • Develop criteria and standards for the use of private sector communications/spectrum in mountainous terrain. • Develop course on airport surface movement operations and digital data link pilot usage. 	<ul style="list-style-type: none"> • Conduct advanced technology RNP concept development and analysis. • Develop operator and inspector guidance on risk assessment tool usage and interactive checklist and smart alerting systems. • Develop guidance for new standards and procedures surrounding communication, navigation, and surveillance technology. 	<ul style="list-style-type: none"> • To Be Determined

1C02: Aircraft Related Equipment Program;
(A) Aircraft Related Equipment Program
(B) Aircraft Related Equipment Program – Boeing Simulator Replacement

(A) Aircraft and Related Equipment Program

Primary Goal: 1.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Aircraft Related Equipment Program. Improve air safety by ensuring that (1) flight inspection aircraft/systems are equipped/modified to validate/certify accuracy of navigational aids' electronic signals and validate/certify the flyability of approach/departure flight procedures and terminal routes at all airports in the NAS; (2) research and development (R&D) aircraft and flight simulators are equipped to test/evaluate new aviation technologies for proof of concept, systems integration, equipment, procedures, and related human factors impacts; and (3) support flight/training mission aircraft are equipped to provide meaningful and relevant aviation safety inspector (ASI) pilot currency/proficiency experience and training required for ASIs to regulate/certify all pilot instructors and test pilots and validate/certify all NAS commercial and civil aircraft operations. Each of these flight program missions serves to reduce fatal aviation accident rates through investigation and incorporation of accident prevention techniques, safety information sharing/analysis, and certification/surveillance via in-flight inspection, testing, evaluation, and validation of activities directly serving safety initiatives benefiting all air carrier and GA users of the NAS.		<ul style="list-style-type: none"> • Installed/evaluated ILS/VOR receivers in one flight inspection aircraft. • Expanded computerized flight monitoring scheduling system (CFMSS) capabilities. • Developed WAAS/LAAS software. • Installed/checked out terrain awareness and warning system (TAWS) in five aircraft. • Continued automated flight inspection system (AFIS) enhancement in 28 aircraft. • Acquired/installed low-earth orbit (LEO) satellite communications (SATCOM) in 10 flight inspection aircraft.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete ILS/VOR receiver installation in all 33 flight inspection aircraft. • Continue expansion of CFMSS capabilities • Acquire WAAS/LAAS receivers (fleet). • Acquire/install TAWS in 22 aircraft. • Install LEO SATCOM in 12 aircraft. • Continue AFIS enhancements in 29 aircraft • Acquire cockpit voice recorder/flight data recorder (CVR/FDR) upgrade (fleet). • Acquire radio frequency interference (RFI)/direction finder (DF) equipment (18 aircraft). • Begin developing modular flight inspection system (MFIS). • Continue developing/integrating ASIS. 	<ul style="list-style-type: none"> • Continue CFMSS expansion. • Continue WAAS/LAAS receiver acquisition/begin installation. • Acquire/install TAWS in 20 aircraft. • Install LEO SATCOM in 11 flight inspection aircraft and two aircraft at Federal Aviation Technical Center (FAATC) and Hangar 6. • Complete AFIS enhancements; four aircraft. • Install RFI/DF capability in 18 aircraft. • Continue acquiring/begin installing CVR/FDR upgrade (fleet). • Continue developing MFIS. • Begin acquiring aircraft collision avoidance system (ACAS II) capabilities for international aircraft. • Begin new technology AFIS development. • Begin cockpit avionics technology refresh for nine flight inspection aircraft for area navigation/required navigation performance capability. 	<ul style="list-style-type: none"> • Complete/implement cockpit avionics technology refresh for 21 flight inspection aircraft. • Develop/implement six MFIS units. • Acquire ACAS II for domestic aircraft; complete ACAS II installation in international and domestic aircraft. • Complete acquisition/installation of CVR/FDR upgrade (fleet). • Develop/implement automated aircraft/scheduling performance system • Develop/implement new AFIS technology • Complete/implement full ASIS capability • Complete WAAS/LAAS receiver's acquisition/installation (fleet).

(B) Aircraft Related Equipment Program – Boeing Simulator Replacement

Primary Goal: 1.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Aircraft Related Equipment Program – Simulator Replacement. Improve air safety, through acquiring an advanced technology flight simulator, by performing meaningful and relevant R&D operational evaluations for large transport category aircraft representative of the U.S. air carrier industry. Also, provide capability for ASI pilot training and currency/proficiency experience required in regulating/certifying all activities comprising U.S. aircraft operations.		<ul style="list-style-type: none"> • Solicited vendor interest. • Obtained and evaluated proposals from qualified vendors. • Initiated preparation of updating facilities. • Completed preliminary selection process for vendor for new simulator.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Acquire new simulator. • Upgrade facilities for new simulator. • Complete memorandum of understanding with the Mike Monroney Aeronautical Center for operation and support of new simulators. • Complete programmatic milestone reviews required by contract provisions. 	<ul style="list-style-type: none"> • Complete acquiring new Boeing simulator. • Certify simulator to FAA Level D requirements. • Install/test/accept new simulator. • Conduct simulator operations/maintenance training. • Achieve partial implementation. • Acquire logistics and support equipment. • Implement operational evaluation program. 	<ul style="list-style-type: none"> • Achieve full implementation.

Activity 2: Improve the Efficiency of the Air Traffic Control System

2A01: Terminal Business Unit: 2A01A; Terminal Automation Program;

- Standard Terminal Automation Replacement System – Development and Procurement
- Terminal Sustainment
- Interim Tower Displays
- Standard Terminal Automation Replacement System – Technology Refresh

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Terminal Automation Program. The Standard Terminal Automation Replacement System (STARS) program will provide a digital capable system to meet expanding air traffic control needs. The STARS will provide new computer workstations with high-resolution color displays and commercially based software to allow the FAA to move toward uniform configuration at all terminal facilities. The Terminal Sustain program will maintain the existing FAA automation infrastructure (ARTS IIIA, ARTS IIE, ARTS IIIE, and associated displays) until transitioned to the STARS. The interim tower display program will procure remote ARTS color displays and stand alone tower displays and will relocate existing digital bright radar indicator tower equipment assets to satisfy tower display needs until the STARS Tower Display Workstations can be fielded. The STARS Technology Refresh program will keep the STARS hardware and software current as technology evolves.		<ul style="list-style-type: none"> • Delivered full STARS full service (FS) 2+ to Philadelphia. • Delivered STARS early display configuration-2 (EDC) to seven sites. • Upgraded El Paso and Syracuse to full STARS FS-1. • Continued deployment of lifecycle maintenance builds for EDC-2 and STARS initial systems configuration (ISC). • Procured 18 STARSs. • Commissioned ARTS IIIE at Minneapolis-St. Paul, St Louis, Atlanta phase II, and Northern California. • Delivered final 17 remote ARTS color displays. • Completed ARTS IIIE Power PC upgrade. • Deployed three interim tower displays. 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Upgrade El Paso and Syracuse to full STARS FS-2+. • Begin operations with full STARS FS 2+ at Philadelphia. • Conduct STARS FS-2+ IOT&E. • Receive ISD for STARS FS-2+. • Procure 23 STARS and deliver 18 STARS. • Deliver STARS EDC-2+ to four sites. • Start EDC-2 upgrades to FS-2+. • Continue deployment of lifecycle maintenance builds for EDC-2, ISC, and FS-2+. • Complete ISC upgrades to FS-2+. • Deploy 20 interim tower displays. • Commission ARTS IIIE at Potomac. 		<ul style="list-style-type: none"> • Procure 10 STARSs. • Deliver 23 STARSs. • Continue EDC-2 upgrades to FS-2+. • Continue deployment of lifecycle maintenance builds for EDC-2 and FS-2+. • Deploy 10 interim tower displays. 	<ul style="list-style-type: none"> • The STARS program for FY 2005-2008 is currently under review. • Procure 84 STARSs; deliver 106 STARSs; and deploy four interim tower displays. • Develop and implement lifecycle maintenance builds. • Continue planning, developing, and implementing additional STARS enhancements. • Implement STARS technology refresh (e.g., new sun operating systems).

2A01: Terminal Business Unit: 2A01B; Air Traffic Control Beacon Interrogator – Replacement;

- **Secondary Surveillance – Air Traffic Control Beacon Interrogator – Replacement**
- **Air Traffic Control Beacon Interrogator Model 6 - Beacon Only Buildings**

Primary Goal: 2.1/2.1.3

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
<p>Secondary Surveillance – Air Traffic Control Beacon Interrogator (ATCBI-6) – Replacement. Replace existing surveillance ATCBI-4/5 equipment that has reached the end of its lifecycle. ATCBI-6 selectively interrogates individual aircraft and provides precise tracking information to the host system. This improved automation tool is designed to support Free Flight.</p>	<ul style="list-style-type: none"> • Placed an order for 36 ATCBI-6 production systems. • Received ISD. • Commissioned the first article system at Tinker Air Force Base, OK. • Procured remaining 99 monopulse beacon test sets. • Continued monopulse beacon test sets interface. • Continued developing Occupational Safety and Health Administration (OSHA) ladders. • Procured additional system depot and site spares. • Completed NAS infrastructure management system (NIMS) interface on fixed position surveillance and ARSR-1/2. • Began NIMS interface on BOS, ARSR-3, and ARSR-4. • Continued rotary joint, antenna, and mounting kit installation. • Delivered a total of 17 ATCBI-6 systems. • Conducted site surveys at 17 sites for a total of 76 to date. • Continued the ARSR-3 and ARSR-4/Mode 4 Interfaces. • Supported commissioning efforts. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Place the order for the remaining 42 ATCBI-6 systems. • Complete development on fixed position surveillance and ARSR-1/2 and begin procuring OSHA ladders. • Complete ARSR-3 development of OSHA ladders. • Continue ARSR-4/Mode 4 Interface development. • Complete NIMS interface on BOS, ARSR-3 and continue on ARSR-4. • Continue testing and installing ATCBI-6 systems. • Continue rotary joint and antenna installations. • Establish FAA program support facility. • Complete ARSR-3 rotary joint cut over plan. • Complete NAS/NOM training course. • Complete development and begin production/installation of Mode S antenna modification/antenna trolley system. • Continue to conduct site surveys. • Continue to support commissioning efforts. <p>Estimate: 30 percent of work complete.</p>	<ul style="list-style-type: none"> • Continue to support delivery, installation, and site testing of ATCBI-6 systems and site spares. • Complete testing and installation of the ARSR-4/Mode 4 Interface. • Procure and conduct additional maintenance and operational training. • Continue contractor depot-level support services. • Complete NIMS interface on ARSR-4. • Complete the FAA program support facility. • Continue to support commissioning efforts. <p>Estimate: 50 percent of work complete</p>	<ul style="list-style-type: none"> • Continue to support delivery, installation, and site testing of ATCBI-6 systems and site spares. • Continue contractor depot-level support services. • Conduct additional maintenance and operational training. • Continue to support commissioning efforts. • Complete full transition of FAA depot support in FY 2006. • Complete ATCBI-6 commissioning efforts in FY 2008.

2A01: Terminal Business Unit: 2A01C; Air Traffic Control En Route Radar Facilities Improvements;

- Long-Range Radar Program – Long Range Radar Improvement – Infrastructure Upgrades
- En Route Radar Facilities Improvements-In-Service Engineering

Primary Goal: 2.1/2.1.3

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Long-Range Radar (LRR) Improvements – Infrastructure Upgrades. Improve NAS efficiency by ensuring that aircraft positional information and identification derived from LRR sites remain available to support air traffic control services (including separation assurance, traffic management, navigation, and flight information).		<ul style="list-style-type: none"> • Completed infrastructure upgrades at 25 additional en route LRR facilities; 50 of 126 facilities (or 40 percent) have been completed to date; refurbished or replaced heating, ventilating, and air-conditioning (HVAC) systems and power panels, made improvements to grounding systems, and replaced equipment shelters where necessary. • Performed in-service engineering.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Attain 56 percent completion by performing facility infrastructure upgrades at 20 additional en route LRR facilities out of 126. Refurbish or replace HVAC systems and power panels, make improvements to grounding systems, and replace equipment shelters, where necessary, at ATCBI-6 sites. • Perform in-service engineering 	<ul style="list-style-type: none"> • Attain 62 percent completion by performing facility upgrades at about eight additional en route LRR facilities out of 126 sites. Upgrade environmental control systems; lightning, grounding, bonding, and shielding systems; and power control systems; as well as modify or replace equipment shelters. • Perform in-service engineering 	<ul style="list-style-type: none"> • Attain 90 percent completion by upgrading en route, beacon-only, ARSR 1/2, 2, and 3 and fixed-position surveillance sites receiving ATCBI-6 systems, including refurbishing HVAC systems and power panels, grounding systems upgrades, and shelter replacements. • Complete LRR site surveys, finalize engineering solutions, and acquire necessary equipment and components to replace obsolete or unsustainable infrastructure systems.

2A01: Terminal Business Unit: 2A01D; Terminal Air Traffic Control Facilities – Replace;

- Air Traffic Control Tower/Terminal Radar Approach Control Replacement

Primary Goal: 2.1/

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Air Traffic Control Tower (ATCT)/Terminal Radar Approach Control (TRACON) Replacement. Improve system efficiency and availability of NAS service by replacing existing ATCTs and TRACONs that cannot meet the needs of present-day airport operational requirements. The average age of control towers is 27 years, and some are as old as 40 years. As the volume and complexity of terminal air traffic control increases, so does the need to have additional positions in the ATCTs/TRACONs. The FAA provides air traffic control services from over 270 ATCTs/TRACON facilities and must continually replace these buildings to meet demands.	<ul style="list-style-type: none"> • Procured equipment for 10 sites. • Started construction at five sites. • Commissioned five sites.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Start construction at five sites. Commission six sites. 	<ul style="list-style-type: none"> Start construction at four sites. Commission 11 sites. 	<ul style="list-style-type: none"> Start construction at 21 sites. Commission 25 sites.

2A01: Terminal Business Unit: 2A01E; Air Traffic Control Tower/Terminal Radar Approach Control Facilities - Improve;
(A) Air Traffic Control Tower/Terminal Radar Approach Control Modernization
(B) Advanced Facility Planning
(C) Standard Terminal Automation Replacement System Facilities Upgrades

(A) Air Traffic Control Tower/Terminal Radar Approach Control Modernization

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Air Traffic Control Tower (ATCT)/Terminal Radar Approach Control (TRACON) Modernization. Improve system efficiency and availability of service in the NAS by modernizing and improving terminal facilities to meet current and future operational requirements.		<ul style="list-style-type: none"> Improved, repaired, and sustained 40 ATCTs/TRACON facilities. Added additional positions at two ATCTs/TRACON facilities.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Improve, repair, and sustain 42 ATCTs/TRACON facilities. Add additional positions at six ATCTs/TRACON facilities. 	<ul style="list-style-type: none"> Improve, repair, and sustain 114 ATCTs/TRACON facilities. Add additional positions at four ATCTs/TRACON facilities. 	<ul style="list-style-type: none"> Continue facility sustainment and modernization activities (subject to available funding).

(C) Standard Terminal Automation Replacement System Facilities Upgrades

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Standard Terminal Automation Replacement System (STARS) Facilities Upgrades (F01.01-01). Complete facility upgrades required providing a stable platform for deployment of STARS.		<ul style="list-style-type: none"> Provided facility upgrades for STARS deployment at 14 TRACONs and/or associated ATCTs.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Provide facility upgrades for STARS deployment at 56 TRACONs and/or associated ATCTs. 	<ul style="list-style-type: none"> Provide facility upgrades for STARS deployment at 33 TRACONs and/or associated ATCTs. 	<ul style="list-style-type: none"> Provide facility upgrades for STARS deployment for remaining TRACONs and/or associated ATCTs. <p>Note: Last year of funding for this program is FY 2006.</p>

2A01: Terminal Business Unit: 2A01X1; Air Traffic Control Tower/Terminal Radar Approach Control Establish/Sustain/Replace

- Large Terminal Radar Approach Controls - Potomac TRACON**

Primary Goal: 2.1/2.1.5

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Air Traffic Control Tower/Terminal Radar Approach Control Establish/Sustain/Replace – Potomac Consolidated TRACON (PCT). Consolidate the Andrews Air Force Base, Baltimore-Washington International, Dulles International, Reagan National, and Richmond International TRACONs into a single new facility at Vint Hill, VA, and redesign the Washington/Baltimore Metropolitan Area airspace.		<ul style="list-style-type: none"> Completed installing most equipment and declared IOC on September 30, 2002. Commissioned December 14, 2002. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> PCT commissioning (phase 1) assumed IAD TRACON operations in December 2002. Consolidate DCA, Andrews Air Force Base, Baltimore-Washington International, and Richmond International (phases 2-4). Implement new PCT airspace following successful completion of National Environmental Policy Act process and TRACON collocation. 	<ul style="list-style-type: none"> Not applicable. 	<ul style="list-style-type: none"> Not applicable. 	

2A01: Terminal Business Unit: 2A01X2 ; Air Traffic Control Tower/Terminal Radar Approach Control Establish/Sustain/Replace

- Large Terminal Radar Approach Controls - Northern California TRACON**

Primary Goal: 2.1/2.1.5

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Air Traffic Control Tower/Terminal Radar Approach Control Establish/Sustain/Replace – Northern California TRACON. Consolidate air traffic control services of Sacramento, Bay, Monterey, and Stockton TRACONS into a new facility at Sacramento.		<ul style="list-style-type: none"> Commissioned NCT phase 1 (Sacramento TRACON) operations August 28, 2002. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> Consolidate air traffic control services of Sacramento, Bay, Monterey, and Stockton TRACONS into a new Sacramento facility (phase 2). Transfer some Oakland ARTCC airspace. 	<ul style="list-style-type: none"> Not applicable. 	<ul style="list-style-type: none"> Not applicable. 	

2A01: Terminal Business Unit: 2A0F; Terminal Digital Radar (Airport Surveillance Radar Model 11);

- Airport Surveillance Radar Model 11, Airport Surveillance Radar Model 7, and Airport Surveillance Radar Model 8 Replacement
- Airport Surveillance Radar Model 11 - Tech Refresh

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
The Terminal Digital Radar Programs/ASR-11 (ASR-7/-8 Replacements). Improve system efficiency and availability of service in the NAS by replacing existing ASR-7/8 systems and associated ATCBI 4/5. Replacing existing systems with new digital ASR-11 radar systems will ensure continuation of surveillance service with improved and expanded six-level weather detection/display capability. New digital ASR-11 systems will also provide the input required for STARS and eliminate the need and cost to reengineer/replace obsolete parts required to sustain existing ASR-7/8 systems.		<ul style="list-style-type: none"> • Procured three of 112 production systems. • Installed one ASR-11 system at Department of Defense (DoD) site. • Completed construction at eight ASR-11 facilities. 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Procure four production systems. • Achieve ORD at Key Site, Stockton, and first operational feed at Willow Grove. • Complete construction at four ASR-11 sites. • Deliver and commission four ASR-11 systems. • Conduct IOT&E. 		<ul style="list-style-type: none"> • Procure 10 production systems. • Complete 16 site surveys. • Complete construction of 16 ASR-11 sites. • Deliver and commission 12 ASR-11 systems. 	<ul style="list-style-type: none"> • Complete construction at 69 ASR-11 sites. • Deliver and commission 70 ASR-11 systems.

2A01: Terminal Business Unit: 2A01G; Terminal Radar Program – Airport Surveillance Radar Model 9;

- Airport Surveillance Radar Model 9 - Service Life Extension Program
- Terminal Radar Program – Airport Surveillance Radar Model 9 – Occupational Safety and Health

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
The Airport Surveillance Radar (ASR) Model 9 Programs. Completed the ASR-9 system acquisition program, with all systems delivered and commissioned, but numerous outages at specific locations have impacted critical ASR-9 operations. Due to increases in power outages, equipment outages, OSHA concerns, and diminishing manufacturing sources (obsolete parts), a SLEP is necessary to maintain the functionality currently provided by these systems.	<ul style="list-style-type: none"> • Initiated OSHA modifications, including wave-guide relocation, lift cart, and safe sail access. • Installed 20 ASR-9 jackscrew and box-beam emergency fixes. • Exercised option for procuring receiver/protectors that have exceeded their service life. • Initiated nonrecurring engineering effort for SLEP. • Completed surveillance and communication interface processor emulator for Potomac TRACON project.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005-2008 Performance Output Goals
<ul style="list-style-type: none"> • Conduct OSHA modifications; including wave-guide relocation, lift cart, and safe sail access. • Complete antenna box-beam and jackscrew fixes. • Complete SLEP preliminary design review (PDR) and working engineering model. • Exercise option for procuring receiver/protectors that have exceeded their service life. 	<ul style="list-style-type: none"> • Continue OSHA modifications, including wave-guide relocation, lift cart, and safe sail access. • Exercise option for procuring receiver/protectors that have exceeded their service life. • ASR-9 SLEP JRC 2B decision. 	<ul style="list-style-type: none"> • Complete OSHA modifications, including wave-guide relocation, lift cart, and safe sail access. • Exercise final option for procuring receiver/protectors that have exceeded their service life. • Conduct SLEP.

2A01: Terminal Business Unit: 2A01X3; Mode Select – Provide;

- **Mode Select**
- **Mode Select – Service Life Extension Program**

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
<p>The Mode Select (Mode S) Programs. Implement a National Upgrade II. The current 68020 processor does not have enough capacity to meet initial and future Mode S requirements. The national upgrade to replace the 68020 processor with the newer 68040 processor is required to install dynamic reflectors to mitigate a critical beacon reflection problem, traffic information system (TIS), site identifications to support deployment of beacon interrogator model 6 and ASR-11/monopulse secondary surveillance radar (MSSR). Also, procuring time of year clock replacement, reworking the digital power supply, and modifying the modulation control unit board will improve performance, reliability, and supportability.</p>		<ul style="list-style-type: none"> • Initiated Mode S national upgrade. • Installed time of year clock, modified modulation control unit, and reworked the digital power supply.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue installing 68040 processor boards in conjunction with Mode S national upgrade. • Continue installing time of year clock, modifying modulation control unit, and reworking the digital power supply. • Expand TIS coverage. 	<ul style="list-style-type: none"> • Complete last ORD in FY 2004. • Complete installing 68040 processor boards in conjunction with Mode S national upgrade. • Initiate advanced message format. 	<ul style="list-style-type: none"> • Complete installing time of year clock, modulation control unit modification, and rework of the digital power supply. • Implement advanced message format. • Implement ASR-9 SLEP activities.

2A01: Terminal Business Unit: 2A01H; Terminal Applied Engineering;

- **Terminal Applied Engineering**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Terminal Applied Engineering. Support system efficiency by streamlining deployment of FAA resources to conduct surveys and by providing a benchmark for future terminal facility planning.		An additional 15 out of 400 TRACON and ATCT facilities achieved the following outcomes: <ul style="list-style-type: none"> • Completed government transition evaluations (GTE) and facility condition assessments (FAA Order 6480.17), including initial cost estimates for the FY 2005 budget submission. • Created or redlined facility drawings for configuration management. • Achieved approval of the NAS terminal facilities master plan guidelines for existing terminal facilities, FAA-STD-059, August 9, 2002, by the • NAS CCB. • Completed phase II for the facilities information and analysis tool (FIAT). • Developed initial training plan for the FIAT. • Integrated existing GTE report format into the new FIAT tool. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
An additional 47 out of 400 TRACON and ATCT facilities will achieve the following outcomes: <ul style="list-style-type: none"> • Perform GTEs and facility condition assessments (FAA Order 6480.17), including initial cost estimates for the FY 2006 budget submission. • Create or redline facility drawings for configuration management. • Complete and execute training plan for the FIAT. • Develop nine terminal facility master plans, including final cost estimates. 	An additional 52 out of 400 TRACON and ATCT facilities will achieve the following outcomes: <ul style="list-style-type: none"> • Perform GTEs and facility condition assessments (FAA Order 6480.17), including initial cost estimates for the FY 2007 budget submission. • Create or redline facility drawings for configuration management. • Develop terminal facility master plans, including final cost estimates. • Perform 15 followup GTE's from previous evaluations. 	An additional 133 out of 400 TRACON and ATCT facilities will achieve the following outcomes in 2005 through 2007: <ul style="list-style-type: none"> • Perform GTEs and facility condition assessments (FAA Order 6480.17), including initial cost estimates for the FY 2008–FY 2010 budget submissions. • Create or redline facility drawings for configuration management. • Develop terminal facility master plans, including final cost estimates. • Per year, perform 15 followup GTEs from previous evaluations. • Maintain 30 percent of existing terminal facility master plans continuously on a 2-year lifecycle. 	

2A01: Terminal Business Unit: 2A01I; Precision Runway Monitor;

- **Precision Runway Monitor**

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Precision Runway Monitor. Provide the capability to conduct simultaneous independent approaches on closely spaced parallel runways less than 4,300 feet apart during adverse weather conditions and thereby reducing delays.		<ul style="list-style-type: none"> • Completed contractor acceptance inspection on the San Francisco International Airport system • Initiated System #6 Type “C” configuration upgrade. • Completed site construction at the John F. Kennedy International Airport. • Completed information security testing on the Philadelphia system. • Initiated the San Francisco International Airport commissioning activities • Initiated phase IV testing on the John F. Kennedy International Airport system. 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete production of system #6 to Type “C” configuration upgrade. • Commission the San Francisco International Airport system. • Commission the John F. Kennedy International Airport system. • Award the contract for systems #1-5 Type “C” configuration upgrade kits. • Award the system #6 contract for site construction and system installation. • Deliver system #6 to the installation site and commence installation activities. • Initiate procuring system #7 materiel components. • Build a system for use as a training table. 		<ul style="list-style-type: none"> • Complete system #6 installation and testing. • Continue procuring system #7. • Initiate system #6 commissioning activities. • Continue installing systems #1-5 Type “C” configuration upgrade kits. • Begin site evaluation/site preparation activities for system #7. 	<ul style="list-style-type: none"> • Complete procuring system #7. • Award the system #7 contract for site construction and system installation. • Complete installing systems #1-5 Type “C” configuration upgrade kits. • Commission system #6 in February 2005. • Complete system #7 construction, site testing, and system integration. • Commission system #7 at the end of calendar year 2006.

2A01: Terminal Business Unit: 2A01J; Houston Area Air Traffic System;

- **Houston Area Air Traffic System**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Houston Area Air Traffic System. Provide air traffic control improvements and additional navigation aids in the Houston metropolitan area so that the new runway under construction can be used efficiently. New runways add capacity and reduce air traffic delays.		<ul style="list-style-type: none"> • Funding profile being developed for the TRACON replacement 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Conduct generic design and site selection. 		<ul style="list-style-type: none"> • Conduct site adaptation. 	<ul style="list-style-type: none"> • Conduct environmental assessment. • Conduct site acquisition. • Award construction contract.

2A01: Terminal Business Unit: 2A01L; New York Integrated Control Complex

- New York Integrated Control Complex

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
New Your Integrated Control Complex. Replace the existing consolidated TRACON and the en route center with a single facility that will address capacity constraints in the New York area. Consolidating the facilities and the airspace they control will allow more efficient use of the total airspace and reduce the artificial boundaries that prevent efficient use of the airspace.		<ul style="list-style-type: none"> • Not applicable. 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Conduct generic design and site selection. 		<ul style="list-style-type: none"> • Conduct site adaptation. 	<ul style="list-style-type: none"> • Conduct environmental assessment. • Conduct site acquisition. • Award construction contract.

2A01: Terminal Business Unit: 2A01M; Aeronautical Data Link Tower Data Link Services

- Aeronautical Data Link Tower Data Link Services – Replacement

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Tower Data Link Services: Provide data link capabilities and associated benefits to 58 high-density airport traffic control towers.		<ul style="list-style-type: none"> • Obtained ISD for technology refresh; performed technology refresh at 13 sites (goal: 11 sites). 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete technology refresh at remaining 45 sites. • Deliver first software upgrade release to field. • Establish NIMS interface requirements. 		<ul style="list-style-type: none"> • Continue with scheduled software releases. • Connect to NIMS. 	<ul style="list-style-type: none"> • Establish requirements for replacement program • Develop replacement product (function).

2A02: Aeronautical Data Link Applications;

(A) Aeronautical Data Link - Flight Information Service

(B) Aeronautical Data Link - Controller-Pilot Data Link Communication Build I/IA

(A) Flight Information Service

Primary Goal: 1.1/1.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Flight Information Service (FIS). Improve the safety of the NAS by providing new weather hazard graphics directly to pilots via data link for cockpit display relative to current position and route of flight, and by improving the quality of aviation weather hazard advisories (en route and terminal) through input of aircraft-derived weather data from low-altitude commuter and package-carrier operations via the tropospheric airborne meteorological data reporting (TAMDAR) program.	<ul style="list-style-type: none"> • Achieved operational flight information service data link (FISDL) service through activation of 70 ground stations out of 200 planned (35 percent). • Achieved more than 450 active users of FISDL services; target 5,000 by FY 2008 (9 percent). • Published performance criteria for determining continuation and/or extension of FISDL service. • Published government-industry standards for FIS-B data link communications prepared by RTCA Special Committee 195.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Expand national coverage and operational FISDL services through activation of 100 more ground stations, resulting in 170 operational out of 200 total (85 percent). • Achieve at least 1,000 active users of FISDL services out of 5,000 planned (20 percent). • Establish FAA monitoring and quality control of FISDL services. • Publish advisory circulars and technical standards order supporting FISDL implementation. 	<ul style="list-style-type: none"> • Complete activation of 30 remaining FISDL ground stations, resulting in 200 operational sites (100 percent). • Achieve at least 1,500 active users of FISDL services out of 5,000 planned (30 percent). • Evaluate solution alternatives for implementing TAMDAR, a national system for collecting and disseminating automated meteorological reports from low-altitude aircraft operations in the NAS. 	<ul style="list-style-type: none"> • Achieve at least 1,000 additional active users of FISDL services each year; target at least 5000 by FY 2008 (100 percent). • FAA decision to implement TAMDAR in FY 2005. • Publish standards guidance (RTCA, ACs, technical standards orders) supporting introduction of TAMDAR service in FY 2006. • Implement initial TAMDAR service in FY 2008; equip at least 10 aircraft of planned 200 aircraft (5 percent). • Evaluate technology alternatives to FISDL service (FIS/NEXT).

(B) Controller-Pilot Data Link Communication Build I/IA**Primary Goal: 2.1/2.1.2**

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Controller-Pilot Data Link Communication (CPDLC) Build I/IA. Combine reduced voice communications workload and distribute communications responsibility to provide benefits by increasing flight efficiency—which is reflected by less time and fewer miles flown in sector as well as increased airspace capacity, which is reflected by increased sector traffic throughput (miles in trail restrictions relaxed in an experimental sector based on voice communication reduction) and reduced delay.		<ul style="list-style-type: none"> Completed CPDLC Build I evaluation at Miami ARTCC. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> Complete CPDLC Build I initial daily use (IDU) at Miami ARTCC. 	<ul style="list-style-type: none"> Install and check out Build IA system at William J. Hughes Technical Center. 	<ul style="list-style-type: none"> Complete CPDLC Build IA IDU at Miami ARTCC. 	

2A03: Free Flight Phase 2;**(A) Free Flight Phase 2 Integration****(B) Free Flight Phase 2 User Request Evaluation Tool****(C) Free Flight Phase 2 Traffic Management Advisor - Single Center****(D) Free Flight Phase 2 Collaborative Decision-Making****(E) Free Flight Phase 2 Priority Research Support Efforts****(F) Free Flight Phase 2 Sustain****(A) Free Flight Phase 2 Integration****Primary Goal: 2.1**

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Free Flight Phase 2 – Integration. Improve system efficiency by supporting the IDU/planned capability available activities for the Free Flight Phase 2 tools/capabilities.		<ul style="list-style-type: none"> Established Free Flight Phase 2 tracking milestones during JRC-2B in June 2002. Prepared risk management plan/report, human factors (HF) report, and security certification authorization plans (SCAP) for FFP2. Publish semiannual Metrics Report. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> Update risk management plan/report, HF report, and SCAPs, as necessary. Publish semiannual metrics report. 	<ul style="list-style-type: none"> Update risk management plan/report (reduce Risk Management meetings to bimonthly), HF report (defer some TBD HF activities to FY 2005), and SCAPs, as necessary. Publish single annual metrics report only. 	<ul style="list-style-type: none"> Update risk management plan/report, HF report, and SCAPs, as necessary. Publish semiannual metrics report. 	

(B) Free Flight Phase 2 User Request Evaluation Tool**Primary Goal: 2.1/2.1.1, 2.1.2**

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Free Flight Phase 2 – User Request Evaluation Tool (URET). Provide a tool that identifies conflicts in requested flight paths and allows air traffic controllers to evaluate pilot requests. Contribute to an increase in direct routings by 15 percent.		<ul style="list-style-type: none">Established Free Flight Phase 2 tracking milestones during JRC-2B in June 2002.	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none">Achieve IDU at four URET site.	<ul style="list-style-type: none">Achieve IDU at 10 URET sites.	<ul style="list-style-type: none">Attain planned capability available on build six in FY 2006.Turn support over to ATS in FY 2007.	

(C) Free Flight Phase 2 Traffic Management Advisor - Single Center**Primary Goal: 2.1/2.1.1, 2.1.2**

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Free Flight Phase 2 - Traffic Management Advisor (TMA) – Single Center (TMA-SC). Contribute to an increased capacity at selected airports by three percent.		<ul style="list-style-type: none">Established Free Flight Phase 2 tracking milestones during JRC-2B in June 2002.	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none">Deploy TMA-SC to one site.	<ul style="list-style-type: none">Continue spiral development enhancements/fixes as prioritized by National User Team using current year funding level (enhancements/fixes are “to-do” items maintained by national user team in response to input from end-item users).Support existing site.	<ul style="list-style-type: none">Deploy TMA-SC to remaining three FFP2 sites by end of FY 2007.	

(D) Free Flight Phase 2 Collaborative Decision Making**Primary Goal: 2.1/2.1.1, 2.1.2**

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Free Flight Phase 2 - Collaborative Decision Making (CDM). Contribute to an increased capacity at selected airports by three percent and contribute to an increase in direct routings by 15 percent.	<ul style="list-style-type: none">Established Free Flight Phase 2 tracking milestones during JRC-2B in June 2002.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Develop and implement CDM functional enhancements in periodic (6 months) deliveries (enhancement items are prioritized by National User Team using current year funding level). 	<ul style="list-style-type: none"> Develop and implement CDM functional enhancements in periodic (6 months) deliveries (enhancement items are prioritized by National User Team using current year funding level). 	<ul style="list-style-type: none"> Develop and implement CDM functional enhancements in periodic (6 months) deliveries (enhancement items are prioritized by National User Team using current year funding level).

(E) Free Flight Phase 2 Priority Research Support Efforts

Primary Goal: 2.1/2.1.1, 2.1.2

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Free Flight Phase 2 - Priority Research Support Efforts. Develop new tools to help increase NAS capacity and efficiency.		<ul style="list-style-type: none"> Conducted lab and field evaluations of priority research tools. Established JRC investment decisions for incremental development of problem analysis, resolution, and ranking.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Conduct lab and field evaluations of traffic management advisor - multi center; direct-to problem analysis, resolution, and ranking; and surface management system. 	<ul style="list-style-type: none"> Not applicable. 	<ul style="list-style-type: none"> Prepare investment analysis documents for final investment decision. Deploy operational prototype, if technology is sufficiently mature. Transition prototype to production (if research is successful).

2A04: Air Traffic Management;

- Traffic Flow Management Infrastructure – Current Enhanced Traffic Management System Operations

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Traffic Flow Management (TFM) Infrastructure – Current ETMS OPS. Improve system efficiency in utilizing national-scale traffic management. Sustain and upgrade mission-essential TFM operations mandated congressionally to handle the expected increase in air traffic and TFM message traffic that will be generated by full implementation of new delay reduction initiatives and free flight.	<ul style="list-style-type: none"> Installed ETMS in new Potomac TRACON and Gateway (STL) TRACON. Completed bandwidth manager circuit upgrade initiatives. Finalized communications upgrade to support current requirements and new FFP1 functionality, including additional ground delay program enhancements and collaborative routing tools. Software/memory upgrades to increase efficiency and functionality for configuration at traffic management units (TMUs), hub, and lab facilities. Completed all scheduled ETMS/ runway visual range (RVR) interface installations Completed SCAP.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • ATM (ETMS) to continue functional upgrades to provide national-scale traffic management tools to balance traffic loads. • Support continued safe flight operations and maximize air traffic flow performing the mission of managing en route air traffic flow at the air traffic control system command center (ATCSCC) using data from the TFM hub. • Report traffic conditions from local TMUs and coordinate delay reduction initiatives with the airlines. • Develop and initiate new software releases and related data integration affecting hub operations at VOLPE. • Install ETMS in Louisville TRACON and Philadelphia TRACON. • Integrate sector traffic management tools, Web-based situational display, dynamic sector realignment, and monitor alert-flight database restructuring. • Continue all scheduled ETMS/RVR interface installations. • Update SCAP to reflect new functionalities as required. • Implement departure spacing programs (DSP) at selected sites. 	<ul style="list-style-type: none"> • ATM (ETMS) to continue functional upgrades to provide national-scale traffic management tools to balance traffic loads. • Provide Free Flight integration and utilization of additional CDM tools. • Provide upgrades to enhanced hardware and site integration until new platform is in place. • Continue implementing DSP at selected sites. • Update SCAP to reflect new functionalities as required. 	<ul style="list-style-type: none"> • Continue TFM operations at all facilities • Continue Free Flight Phase 2 integration and use of CDM tools for sustainment into the TFM infrastructure. • Begin infrastructure re-engineering modernization. • Determine future requirements to for ETMS transitioning to Operations.

2A05: Free Flight Phase 1;

- Free Flight Phase 1 Sustain

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
Free Flight Phase 1 – Sustain. Improve system efficiency by continuing to derive capacity gains realized from Free Flight Phase 1 systems.	• Not applicable.	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Maintain FFP1 sites prior to OPS budget takeover. 	<ul style="list-style-type: none"> • Maintain FFP1 sites prior to OPS budget takeover. 	<ul style="list-style-type: none"> • Maintain FFP1 sites prior to OPS budget takeover.

2A06: Automated Surface Observing System;

- Automated Surface Weather Observing System – Automated Surface Observing System Pre-Planned Product Improvements
- Automated Surface Weather Observing System – Data Displays
- Automated Surface Weather Observing System – Standalone Weather Systems

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Automated Surface Observing System (ASOS) Programs. Support system efficiency by supplying automated surface weather observations to meet the needs of pilots, operators, and air traffic personnel. The aviation surface weather observation network includes automated weather observing system (AWOS), ASOS, automated weather sensors systems, standalone weather sensors (SAWS), and ASOS controller equipment information display system (ACE-IDS or data displays).		<ul style="list-style-type: none"> • Began SAWS delivery. • Implemented product improvements and upgrades to the base ASOSs. • Commissioned 12 SAWSs. • Delivered five ACE-IDSs. • Completed ASOS commissioning. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Implement product improvements and upgrades to the base ASOSs. • Deliver 33 SAWSs. • Deliver two ACE-IDSs. 	<ul style="list-style-type: none"> • Implement product improvements and upgrades to the base ASOSs. • Deliver 54 SAWSs. • Install one ACE-IDSs. 	<ul style="list-style-type: none"> • Implement product improvements and upgrades to the base ASOSs. • Deliver 144 SAWSs. 	

2A08: Information Display System – Terminal Facilities;

- Automated Surface Observing System Controller Equipment Information Display System for Terminal Facilities

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Automated Surface Observing System Controller Equipment (ACE) Information Display System (IDS) for terminal facilities. The ACE-IDS project contributes to the FAA system efficiency goal by depicting information the controller needs on weather and NAS status on a single display. This project will provide systems which are intended to integrate the agency's information display and control systems and provide immediate access to a wide range of operational information and support data; provide display for external systems; provide consolidated control and monitoring of airfield systems; and provide standardized human-machine interface to all systems. The system is to function as the display and interface portion of other systems, eliminating the need to introduce additional displays and control panels into air traffic control towers. The system will provide a dependable, stable, versatile, and expandable platform to display operational data, weather information, control and monitoring status, and administrative records to specialists, managers, maintenance personnel, and outside users.	<ul style="list-style-type: none"> • Not applicable.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Not applicable. 	<ul style="list-style-type: none"> • Install 275 workstations at sites with the most compelling needs. 	<ul style="list-style-type: none"> • Not applicable.

2B01: Next Generation Very High Frequency Air-to-Ground Communications System;

- Next Generation Air-to-Ground Communications System Segment 1A
- Next Generation Air-to-Ground Communications System Segment 1B
- Next Generation Air-to-Ground Communications System Segments 2 and 3

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Next Generation Air-to-Ground (A/G) Communications (NEXCOM) System Segments 1A, 1B, and 2 and 3. Provide a new communications system to satisfy requirements that cannot be met using the current voice communications system. NEXCOM will increase the current communications capacity three to four times.		<ul style="list-style-type: none"> • Established government/industry partnership for avionics development.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Provide NEXCOM notice of proposed rulemaking (NPRM) and submit for internal agency review. • Complete NEXCOM system demonstration #1. • Complete source selection activities for the NEXCOM rapid preliminary development effort • Produce 325 NEXCOM multi-mode digital radios. 	<ul style="list-style-type: none"> • Provide NEXCOM NPRM and submit for OMB review; publish NPRM. • Complete NEXCOM system demonstration #2. • Release full-scale development final screening information request plan. • Produce 450 NEXCOM multi-mode digital radios. 	<ul style="list-style-type: none"> • Complete NEXCOM system demonstration #3. • Award NEXCOM full-scale development contract in 2005. • Publish final rule in 2005. • Conduct NEXCOM system ISD in 2007.

2B02: En Route Automation Program;

- En Route Automation Modernization

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
En Route Automation Modernization (ERAM). ERAM acquisition will result in installation of a new en route automation system at each ARTCC that will provide: (1) flight data processing capabilities that allow flexible routing around congestion, weather, and restrictions; (2) increased number and type of surveillance sources with improved surveillance coverage; (3) availability of safety alerts when using the backup mode and; (4) enhanced capabilities for incorporating future enhancements and new operational concepts.	<ul style="list-style-type: none"> • Deployed en route information display system developmental system to Salt Lake City, Boston, and Jacksonville ARTCCs. • Completed initial evaluation of deployed en route information display system developmental system. • Conducted flight plan preprocessing phase 1 prototype evaluations. • Completed flight plan preprocessing phase 2 prototype development with dynamic restrictions and initiated evaluation activities. • Completed JRC-2A for the ERAM Solution contract.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Award ERAM solution contract. • Conduct ERAM JRC 2b. 	<ul style="list-style-type: none"> • Testing, synchronization, and Government Acceptance of first direct access radar channel (DARC) replacement capability. • Synchronization with display system replacement (DSR) and URET builds. • Perform technical review of system segment specification for host replacement. 	<ul style="list-style-type: none"> • Achieve first site IOC for ERAM capabilities.

2B03: Weather and Radar Processor;

- **Weather and Radar Processor – Stage 3**
- **Weather and Radar Processor – Tech Refresh/Product Upgrades**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Weather and Radar Processor – Stage 3. Collect, process, and disseminate NEXRAD data and other weather data to ARTCC controllers, traffic management specialists, and ARTCC weather service unit meteorologists. The weather radar processor provides the most timely and accurate weather forecast products to other NAS subsystems.		<ul style="list-style-type: none"> • Completed IOC of NEXRAD products on DSR. • Completed weather information network system deployment at all ARTCCs. • Provided enhancements to National Mosaics. • Continued Stage 3 and provide systems changes as required by users.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Make quality enhancements to National Mosaics. • Implement security enhancements in accordance with SCAP. • Develop operational changes to accommodate NEXRAD hardware and software upgrades. • Implement weather information network system at additional ARTCCs to provide critical weather data to Free Flight Phase 1 and 2 programs. 	<ul style="list-style-type: none"> • Implement security enhancements in accordance with SCAP. • Complete NEXRAD hardware and software upgrades. 	<ul style="list-style-type: none"> • Initiate hardware upgrade acquisition activities in FY2006.

2BO4X: Automatic Dependent Surveillance National Implementation;

- Automatic Dependence Surveillance National Implementation**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Automatic Dependence Surveillance (ADS) National Implementation. Provide improved surveillance to pilot and ATC user tools to enable more efficient traffic flows in the NAS. National implementation includes the development and deployment of ADS ground stations in the en route, terminal, and surface domains, along with the automation and communication system modifications necessary to support ADS capabilities. ADS will allow aircraft to fly at their optimum altitude, speed, and routing, resulting in better schedule reliability while maintaining a high level of safety.		<ul style="list-style-type: none"> Not applicable.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Conduct Investment Analysis for first segment (pocket) of national implementation. 	<ul style="list-style-type: none"> Conduct JRC 2 for first segment (pocket) of national implementation. 	<ul style="list-style-type: none"> Conduct investment analyses for subsequent segments (pockets) of implementation. Conduct JRCs for subsequent segments as required Initiate deployment of ground infrastructure for first segment

2C02: National Airspace System Management Automation Program;

- National Airspace System Management Automation Program**

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
NAS Airspace System Management Automation Program. Contribute to the FAA system efficiency goal by performing the following tasks: <ul style="list-style-type: none"> Establish metadata repository of ATS information systems, including NAS mission support and administrative systems. Provide ATS information systems and manage a single data source for all key mission support and business areas. Provide a common toolset for managing finance, planning, performance, and schedule of all ATS business units. Provide technology refresh, including hardware, software, and infrastructure, for ATS national data center (NDC) and pb-ICE tools. 	<ul style="list-style-type: none"> Became focal point of access of DELPHI data for all ATS information systems. Consolidated all DELPHI data requirements from ATS expanded data acquisition to satisfy new data requirements. Signed memorandum of agreement and built interfaces for eight new system subscribers for data feeds. Deployed pb-ICE tools to Terminal Business Service users and users at headquarters. Began developing secure executive toolset – emergency management (SET-EM) for emergency management. Built NAS support integration process repository by collecting metadata about all ATS information systems, including NAS mission support/administrative systems. Launched NAS support integration process to begin evaluation of ATS information systems.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Map DELPHI data to DAFIS data requirements and build DELPHI interfaces for 26 ATS information systems. • Continue expansion of ATS NDC database, data sources and subscribers for ATS corporate data sharing. • Continue development and deployment of SET-EM for emergency management. • Upgrade hardware, software, and infrastructure for ATS NDC and pb-ICE tools. • Continue deployment of pb-ICE tools to regional offices. • Continue the NAS support integration process and evaluate ATS information systems. • Begin conducting ATS information system security certification and authentication. • Become compliant with e-Gov, GPEA, and Section 515 guidelines. 	<ul style="list-style-type: none"> • Continue expansion of ATS NDC database, data sources, and subscribers for ATS corporate data sharing. • Continue development and deployment of SET-EM for emergency management. • Upgrade hardware, software, and infrastructure for ATS NDC and pb-ICE tools. • Continue deployment of pb-ICE tools to regional offices. • Continue conducting ATS information system security certification and authentication. • Become compliant with e-Gov, GPEA, and Section 515 guidelines. 	<ul style="list-style-type: none"> • Continue expansion of ATS NDC database, data sources and subscribers for ATS corporate data sharing. • Upgrade hardware, software, and infrastructure for ATS NDC and pb-ICE tools • Continue deployment of pb-ICE tools to regional offices. • Continue conducting ATS information system security certification and authentication. • Become compliant with e-Gov, GPEA, and Section 515 guidelines.

Activity 3: Increase Capacity of the National Airspace System

3A01: Navigation and Landing Aids: 3A01A; Local Area Augmentation System for Global Positioning System;

- Local Area Augmentation System

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Local Area Augmentation System (LAAS) Program. Provide a satellite-based precision approach capability that meets the requirements for all weather approach and landing capability. Providing precision approach guidance at additional airports will allow landings in low visibility conditions, which increases schedule reliability for commercial carriers. The LAAS for the GPS complements the WAAS by providing category (CAT) I and CAT II/III precision approach capabilities. A single LAAS can provide approach guidance to multiple runways, which allows use of additional runways during adverse weather conditions.		<ul style="list-style-type: none"> • Received and evaluated proposals from industry.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Award contract for CAT I LAASs. 	<ul style="list-style-type: none"> • Continue CAT I LAAS acquisition activities, including system design, documentation, and development. • Further develop advanced procedures. • Perform CAT II/III R&D efforts, including technical design and engineering support. 	<ul style="list-style-type: none"> • Procure 10 limited rate initial production systems. • Complete CAT I LAAS buys. • Award contract for CAT II/III LAAS.

3A01: Navigation and Landing Aids: 3A01B; Wide Area Augmentation System for Global Positioning System;

- Wide Area Augmentation System

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Wide Area Augmentation System (WAAS) Program. Provide non-precision lateral navigation (LNAV) and vertical navigation (VNAV) capability to airports without such existing capabilities. Vertical guidance allows approaches to runways in low visibility conditions. After IOC, expected in December 2003, pilots will be able to use lateral navigation with precision vertical guidance (LPV) approaches. LPV performance is within 50 feet of CAT 1 landing requirements, which supports close to CAT 1 minimums at many airports. WAAS also will reduce air traffic separation, provide more direct en route paths, and provide low visibility approach capability at new locations.	<ul style="list-style-type: none"> • Integrated all required software modifications onto the WAAS signal-in-space. • Reached technical concurrence on the WAAS integrity. • Concluded the 60-day stability test on September 16, 2002. • Supported the Associate Administrator for the Office of Certification and Regulation Safer Skies initiative (cornerstone for Free Flight). • Demonstrated that WAAS systems architecture achieves deliverable performance objectives. • Developed LNAV/VNAV procedures for additional runway ends.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<p>WAAS performance parameters for Level I:</p> <p>En Route/Non-Precision Approach</p> <p>Integrity 10^{-7}</p> <p>Horizontal accuracy 7.6 meters or less</p> <p>Vertical accuracy 7.6 meters or less</p> <p>Time to alarm 10 seconds</p> <p>Availability 99.9 percent</p> <p>Coverage 90 percent of CONUS or more</p> <ul style="list-style-type: none"> • Continue reduction rate of volume and equipment-related delays. • Complete contractor acceptance inspection. • Award geo-stationary communication and control segment contract by March 2003. • Definitize the full operational capability (FOC) on task order with Raytheon by September 30, 2003. 	<ul style="list-style-type: none"> • Commission WAAS IOC for LNAV/VNAV December 2003. • Continue definitization of the full operating capability task with Raytheon. • RNP: operations concept, TERPS criteria, policy, guidance, and procedure development in support of RNP procedures. 	<ul style="list-style-type: none"> • Have the first geo-stationary communication and control segment satellite on orbit. • Continue to develop GPS approach procedures to serve all IFR runway ends. • Develop LPV procedures for additional runway ends. • Acquire additional wide-area reference stations. • Develop an electromagnetic interference detection and location capability. • Complete WAAS FOC in 2007.

3A01: Navigation and Landing Aids: 3A01C; Very High Frequency Omni-Directional Range with Distance Measuring Equipment;

- **Very High Frequency Omni-Directional Range Collocated with Tactical Air Navigation**

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
<p>Very High Frequency Omni-Directional Range Collocated with Tactical Air Navigation (VORTAC). Improve system efficiency in the NAS by replacing, relocating, or converting VOR and VORTAC facilities in order to maintain a reliable, safe, and efficient air navigation system used for en route and approach purposes.</p>	<ul style="list-style-type: none"> • Performed field installment of about 29 tactical air navigation antenna retrofit kits. • Completed relocation process of one VOR facility. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Perform field installation of about 25 tactical air navigation antenna retrofit kits. • Procure four Doppler VOR antennas and fund one Doppler conversion. 	<ul style="list-style-type: none"> • Procure four Doppler VOR antennas. • Fund two Doppler conversions and 25 Antenna retrofit. • Fund one relocation antenna. 	<ul style="list-style-type: none"> • Continue facility relocations, retrofits, conversions, and upgrades as required.

3A01: Navigation and Landing Aids: 3A01D; Instrument Landing System – Establish/Upgrade;

- **Instrument Landing Systems**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Instrument Landing Systems (ILS). Improve NAS efficiency by establishing and maintaining precision approach capability at large- and medium-sized hub airports and their associated reliever airports. ILS will help meet expanding air traffic control needs for increased airport capability by increasing capacity through lowering of visual minimums required for landing.		<ul style="list-style-type: none"> • Commissioned two approach lighting systems with sequence flashes-2 (ALSF-2) systems. • Commissioned four medium-intensity approach light system with runway alignment indicator lights (MALSR) systems. • Commissioned six ILS systems.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Commission two ALSF-2 systems. • Commission 10 MALSR systems. • Commission or return to services 15 ILS systems. 	<ul style="list-style-type: none"> • Install three MALSR systems. • Install two ALSF-2 systems. • Install four ILS systems (CAT I, CAT II/III) 	<ul style="list-style-type: none"> • Continue to procure and install ILSs and associated equipment.

3A01: Navigation and Landing Aids: 3A01E; Approach Lighting System Improvement Program;

- **Approach Lighting System Improvement Continuation**

Primary Goal: 1.1/1.1.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Approach Lighting System Improvement Program Continuation. Improve safety in the NAS by replacing rigid, non-frangible lighting support structures with frangible approach lighting equipment.		<ul style="list-style-type: none"> • Commissioned one ALSF-2 systems. • Commissioned two MALSR systems.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Deploy two MALSR at various locations. • Deploy one ALSF-2 at various locations. 	<ul style="list-style-type: none"> • Install eight MALSR systems at various locations. • Install four ALSF-2 systems at various locations. 	<ul style="list-style-type: none"> • Install 18 MALSR systems at various locations. • Install four ALSF-2 at various locations.

3A01: Navigation and Landing Aids: 3A01F; Runway Visual Range;

- **Runway Visual Range – Replacement/Establishment**

Primary Goal: 1.1/1.1.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Runway Visual Range (RVR) – Replacement/Establishment. Improve safety in the NAS by replacing the older, maintenance-intensive, and difficult to support legacy systems. RVR systems provide critical meteorological visibility information that is necessary for takeoff and landings on precision approach equipped runways. These older systems are frequently supported by rigid, steel, non-frangible structures.		<ul style="list-style-type: none">• Commissioned six RVR systems at various airports.	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none">• Commission or Return to Services 10 RVR systems.	<ul style="list-style-type: none">• Install 12 RVR systems.• Procure 20 RVR systems.	<ul style="list-style-type: none">• Continue to procure and install RVR systems to meet demand for visibility information at precision approach equipped runways.	

3A01: Navigation and Landing Aids: 3A01G; Distance Measuring Equipment – Sustain;

- **Sustain Distance Measuring Equipment – Sustain**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Distance Measuring Equipment (DME) – Sustain. Improve system efficiency in the NAS by replacing obsolete, tube-type DME that provides critical distance information to pilots during preparation for landing.		<ul style="list-style-type: none">• Commissioned three DME systems.• Began site preparation at 10 DME locations to support Commercial Aviation Safety Team (CAST) requirements.	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none">• Commission or return to services three low-power DME.	<ul style="list-style-type: none">• Install 22 CAST DME systems.• Install 14 sustain DME systems.	<ul style="list-style-type: none">• Continue to procure and install low-power DME to replace the current older, tube-type equipment in the NAS.	

3A01: Navigation and Landing Aids: 3A01H; Non-Directional Beacon Facilities – Sustain;

- **Non-Directional Beacons Sustain**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Non-Directional Beacons (NDB) Sustain. Improve system efficiency in the NAS by replacing obsolete, tube-type NDBs with current technology electronics that continue to provide navigational direction information.		<ul style="list-style-type: none"> • Procured and installed NDB equipment at about 13 regional locations. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Procure and install NDB equipment at about 14 regional locations. 	<ul style="list-style-type: none"> • Procure and install 14 NDB systems. 	<ul style="list-style-type: none"> • Continue to procure and install NDB equipment at about 16 regional locations. 	

3A01: Navigation and Landing Aids: 3A01I; Visual Navigation Aids – Establish/Expand;

- **Visual Navigation Aids for New Qualifiers**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Visual Navigation Aids for New Qualifiers. Improve system NAS efficiency by providing visual approach slope guidance and runway threshold identification to increase landing capability at designated airports throughout the United States.		<ul style="list-style-type: none"> • Commissioned 18 precision approach path indicator (PAPI) systems at various airports. • Began site preparation at 39 CAST locations. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Install 25 PAPI systems. 	<ul style="list-style-type: none"> • Install 21 CAST PAPI systems. • Install 14 new establish PAPI systems. • Procure and install 10 runway end identifier lights (REIL) systems. 	<ul style="list-style-type: none"> • Continue to procure and install PAPI and REIL equipment to meet demand for visual approach guidance at required airports. 	

3A01: Navigation and Landing Aids: 3A01J; Visual Approach Slope Indicator Replacement – Replace with Precision Approach Path Indicator;

- **Replace Visual Approach Slope Indicator with Precision Approach Path Indicator**

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Replace Visual Approach Slope Indicator (VASI) with PAPI. Improve system efficiency in the NAS by replacing aging, obsolete VASI with newer technology—the more standardized PAPI.	<ul style="list-style-type: none"> • Commissioned six PAPI systems at various locations.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Commission or Return to Services 15 PAPI at various locations. 	<ul style="list-style-type: none"> Continue to procure and install PAPI equipment to replace the current inventory of VASI systems in the NAS (36 PAPI). 	<ul style="list-style-type: none"> Continue to procure and install PAPI equipment to replace the current inventory of VASI systems in the NAS.

3A01: Navigation and Landing Aids: 3A01L; Navigation and Landing Aids – Service Life Extension Program;

- Visual Navigation Aids – Sustain, Replace, Relocate (N04.04-00)**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Visual Navigation Aids – Sustain, Replace, Relocate. Improve system efficiency in the NAS by replacing aging, obsolete visual navigational aids as well as other ground-based navigation and landing aids that are necessary to maintain en route, approach, and landing capabilities at various airports throughout the United States.		<ul style="list-style-type: none"> Deployed one ALSF-2.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Deploy two ALSF-2. Deploy two MALSRS. 	<ul style="list-style-type: none"> Install seven ILS systems. Install two MALSRS systems. Install one ALSF-2 system. Install eight REIL systems. Sustain 65 direction finders (phase II). 	<ul style="list-style-type: none"> Continue procuring and installing various visual navigational aids as well as other ground-based navigation and landing aids.

3A02: Oceanic Automation System;

- Advanced Technologies and Oceanic Procedures**

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Advanced Technologies and Oceanic Procedures (ATOP). Increase system efficiency and capacity in all oceanic ARTCCs through the modernization of the oceanic air traffic control systems. The new oceanic automation system sets the stage for reducing aircraft separation from 100 nmi to 30 nmi, enabling more planes to safely fly preferred routes. The ATOP program will provide a modernized oceanic air traffic control automation system, installation, testing, training, and common procedures and lifecycle system maintenance along with preplanned product improvements. The ATOP system will collect, manage, and display oceanic air traffic data, including electronic flight-strip data, on the computer displays used by air traffic controllers and integrate capabilities such as flight data processing, radar data processing, automatic dependent surveillance, controller-pilot data link, and conflict probe.	<ul style="list-style-type: none"> Delivered “test bed” procedural system to the WJHTC.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Complete Oakland (key site) ARTCC procedural system IOC. Conduct IOT&E. 	<ul style="list-style-type: none"> Complete New York ARTCC procedural system IOC. 	<ul style="list-style-type: none"> Complete Anchorage ARTCC radar/system IOC in FY 2005.

3A0X: Gulf of Mexico Offshore Program;

- Gulf of Mexico Offshore Program

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
Gulf of Mexico (GOM) Offshore Program. Develop an approach to improve efficiency and capacity while enhancing the currently inadequate communication coverage over the GOM. This project is composed of two systems: the buoy communications system (BCS) and the VHF extended range network (VERN). They are directed at expanding direct controller-pilot VHF radio communications. The combination of the BCS and VERN will improve efficiency and capacity through enhanced communications in the en route portion of the GOM above 18,000 ft. These enhancements answer current shortfalls as well as proactively address future anticipated growth and user demand for efficient use of the GOM airspace.	<ul style="list-style-type: none"> Transferred VERN to operational control of Houston ARTCC in support of NAS Handoff. Completed construction/refurbishment of production buoys # 2, 3, and 4. Conducted and completed the BCS provisioning conference. Completed environmental test, production acceptance test, site acceptance test, system integration, and multi-buoy test and operational test for two out of four production buoys. Conducted and completed functional configuration audit/physical configuration with national data buoy center. Conducted several 4-day BCS training course with airway facilities technicians. Initiated multi-buoy upgrades at Houston ARTCC. Delivered first operational buoy. Completed IOC for two production buoys. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Program cancelled. 	<ul style="list-style-type: none"> Not applicable. 	<ul style="list-style-type: none"> Not applicable.

3A03: Voice Switching and Control System;

- Voice Switching and Control System - Control System Upgrade
- Voice Switching and Control System - Tech Refresh
- Voice Switching and Control System - Training and Backup System
- Voice Switching and Control System - Switch Replacement

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Voice Switching and Control System (VSCS) Programs. Improve operational efficiency and effectiveness of the NAS by replacing and upgrading the obsolete, nonsupportable VSCS hardware and software in all ARTCCs. The sustainment activities planned under this program include software upgrades, power supply upgrades, position electronic module upgrades, display module upgrades, and system expansions. By performing these sustainment activities, the VSCS Program will provide improved air traffic control services within the en route environment.		<ul style="list-style-type: none"> • Procured 21 of 21 VSCS servers for the ARTCCs. • Delivered VSCS hardware to additional eight choke-point sectors, providing expanded air traffic operations in the NAS. • Initiated procurement to replace/upgrade the contractor traffic simulation unit, which is used to perform system-loading requirements for all formal baseline verifications of VSCS functions.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Initiate technology refresh activities for sustainment of the VSCS to include workstation upgrades. • Initiate investment analysis activities for the VSCS replacement. 	<ul style="list-style-type: none"> • Continue technology refresh activities to include power supply replacements and video display module replacements. • Continue investment analysis activities for VSCS replacement program. 	<ul style="list-style-type: none"> • Continue technology refresh activities for the sustainment of VSCS in FY 2005–2008.

Activities 4: Improve Reliability of the National Airspace System

4A01: Guam Center Radar Approach Control – Relocate;

- Guam Center Radar Approach Control – Relocate

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Guam Center Radar Approach Control (CERAP) – Relocate. Relocate the Guam CERAP from Andersen Air Force Base to the Guam International Airport in Agana to support the FAA system efficiency goal by replacing the facility that was severely damaged by super typhoon Paka. Replacing the damaged facility will allow updated equipment to be installed, which improves the efficiency of air traffic control for international service.		<ul style="list-style-type: none"> Completed Guam CERAP project design to relocate CERAP from Andersen Air Force Base to Agana International Airport. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> Complete construction of the new CERAP. 	<ul style="list-style-type: none"> Complete electronics installation. 	<ul style="list-style-type: none"> Restore facility at Anderson Air Force Base to its original condition. 	

4A02: Terminal Voice Switch Replacement/Enhanced Terminal Voice Switch;

- Enhanced Terminal Voice Switch
- Command Center Voice Switch

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Enhanced Terminal Voice Switch (ETVS). Improve NAS system efficiency by replacing the electromechanical and aging electronic switches at all ATCTs and TRACON facilities. Through deployment of modern voice switches, the ETVS program provides terminal facilities with modern reliable voice-switching capabilities, which enables efficient and effective air traffic operations.		<ul style="list-style-type: none"> Replaced an additional 25 of 212 terminal voice switches. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> Replace an additional 20 of 212 terminal voice switches. 	<ul style="list-style-type: none"> Award new contract vehicle for procuring terminal voice switches. Replace an additional 15 of 212 terminal voice switches in 2004. 	<ul style="list-style-type: none"> Replace remaining 73 of 212 terminal voice switches in 2005 through 2007. 	

4A03: Airport Cable Loop Systems – Sustained Support;

- **Airport Cable Loop Systems Sustained Support**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Airport Cable Loop Systems Sustained Support. Improve the FAA system efficiency goal by providing sustainability to existing operational airport copper communication infrastructure and new installation of fiber optics infrastructure at high-traffic airport ATC facilities. The program provides the primary pathway for data collection and distribution of power to terminal operational systems and navigation aids.		<ul style="list-style-type: none"> • Continued to replace airport system communication cabling system where airport construction or system installations occur.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue to replace airport system communication cabling system where airport construction or system installations occur. 	<ul style="list-style-type: none"> • Complete technical review of airport cable loop system design. • Research retrofit plans for obsolete fiber optic systems. • Develop standardized fiber optic systems parts list. • Develop airport cable loop system parts database. 	<ul style="list-style-type: none"> • Continue to replace airport system communication cabling system where airport construction or system installations occur. • Develop and implement an Integrated Logistics Support Plan. • Install new underground fiber optic cable loops at about eight OEP airport locations.

4B01: En Route Automation Program;

- (A) En Route Enhancements
- (B) Flight Data Input/Output Replacement
- (C) Direct Access Radar Channel
- (D) Host/Oceanic Computer System Replacement
- (E) En Route Communications Gateway
 - En Route Communications Gateway Tech Refresh
- (F) En Route Modifications
- (G) En Route Monitor and Control
- (H) Aeronautical Information and Flight Planning Enhancements
- (I) FAA Aeronautical Training Systems (Initial Academy Training System)

(A) En Route Enhancements

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals		
En Route Enhancements Program. Support FAA system efficiency goals by maintaining and enhancing host computer system (HCS) and DSR system software at the ARTCCs.	<ul style="list-style-type: none"> • Completed software adaptation of up to 50,000 fixes to support route structuring. • Enhanced safety and controller efficiency by adding fourth line to the DSR full data block. • Provided interface for transitioning from peripheral adapter module replacement item to en route communications gateway (ECG). • Upgraded common message set functionality for URET CCLD, center terminal radar approach control automation system, and ETMS enhancements. • Facilitated display of RVSM capability for micro en route automated radar terminal system. • Sourced national and local patches, as space allows, reducing maintenance burden. • Implemented improvements to facilitate system operations and maintenance. • Developed radar-console display replacement enhancements. • Developed upgrades with such features as interactive data block and toolbar enhancements. • Performed upgrades to support URET. 		
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Accommodate national RVSM capability. • Accommodate national equipment-restricted route enhancements. • Enhance ICAO-compliant flight plan processing to facilitate exchange of ICAO-compliant flight plan messages with Canada and Mexico. • Source national and local patches, as space allows, reducing maintenance burden. • Implement improvements to facilitate system operations and maintenance. • Provide command support enhancements. • Enhance target-filtering capability. • Provide upgrades to computer readout device. • Enhance surveillance range settings. • Enhance range readout. • Complete radar-position display replacement. 	<ul style="list-style-type: none"> • Continue providing software evolution, as prioritized and approved by air traffic and airway facilities, to provide new capabilities and enhancements to the host and DSR software and to address critical software problems. 	<ul style="list-style-type: none"> • Continue providing software evolution, as prioritized and approved by air traffic and airway facilities, to provide new capabilities and enhancements to the host and DSR software and to address critical software problems. • Support ERAM initiative. 	

(B) Flight Data Input/Output Replacement

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Flight Data Input/Output (FDIO) Replacement. Support the FAA system efficiency goal by maintaining and replacing obsolete FDIO equipment.	<ul style="list-style-type: none"> • Complete installation of 80 FDIO at terminal facilities.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete installation of 80 FDIO at terminal facilities. 	<ul style="list-style-type: none"> • Complete installation of 80 FDIO at terminal facilities. 	<ul style="list-style-type: none"> • Complete installation of 80 FDIO at terminal facilities

(C) Direct Access Radar Channel

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
En Route Automation Program – Direct Access Radar Channel (DARC). Maintain an enhanced independent backup radar automation system capable of continuous improvements to functionality. Eliminate legacy hardware and interfaces and replace current software architecture with one that provides hardware independence.		<ul style="list-style-type: none"> • Supported implementing new sustained DARC hardware at 16 ARTCCs. • Developed and deployed DARC functional software versions RAP02 and RAP03 nationally. • Procured and deployed replacement disk drives for obsolete legacy drives that could not be maintained.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue SLEP on seven items identified as significant risk to operations. • Provide funding for reverse engineering and manufacture of selected components. • Maintain system operations until replacement system allows some decommissioned systems to be harvested for key parts needed to sustain remaining systems. 	<ul style="list-style-type: none"> • Replace DARC at 20 ARTCCs. 	<ul style="list-style-type: none"> • Not applicable.

(D) Host/Oceanic Computer System Replacement

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Host/Oceanic Computer System Replacement (HOCSR). Maintain the reliability and performance of the host and oceanic computer systems within the NAS so that future major outages of air traffic control services do not occur. The host and oceanic systems are the central computer and peripheral equipment that processes radar data and formats for the display used by an air traffic controller to control air traffic. The HOCSR program provides upgrades to the critical equipment components that enable air traffic control.		<ul style="list-style-type: none"> Completed government acceptance of phase 3 at 13 en route operational sites (13 sites out of 23). Completed phase 4 of keyboard video display terminal printer replacement procurement and general aviation for all 23 sites. Completed phase 4 high-speed printer procurement for all 23 sites. 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> ORD for HOCSR phase 3 systems at three last sites. Complete HOCSR phase 4 printer replacement at all 23 operational sites. 		<ul style="list-style-type: none"> Plan and deploy keyboard video display terminals to all operational sites. 	<ul style="list-style-type: none"> Plan/deploy tape replacement. Sustain other peripherals through 2008.

(E) En Route Communication Gateway

- En Route Communication Gateway Tech Refresh

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
En Route Communications Gateway (ECG) Tech Refresh. Increase system capacity and expandability by enabling integration of new surveillance technology, introduction of new interface standards and formats, and connection to additional remote equipment. ECG also mitigates end of life risks faced by the currently fielded equipment. The ECG infrastructure will provide the automation system capacity and expandability required to support anticipated increases in air traffic and changes in the operational environment. Because ECG is providing the flexible and expandable architecture required for the introduction of new services, systems, and capabilities, it must be deployed before introducing new services, systems, and capabilities.		<ul style="list-style-type: none"> Delivered equipment to WJHTC labs (PAMRI support facility, ECG maintenance support system, standalone simulator, system support facility, and instruction and interoperability facility). 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Achieve WJHTC government acceptance. Deliver Federal Aviation Administration Aeronautical Center (FAAAC) equipment. Achieve FAAAC government acceptance. Deliver equipment to key site (Seattle ARTCC). 		<ul style="list-style-type: none"> Complete IOT&E at key site (Seattle). Complete in service review and obtain ISD. Conduct IOT&E. 	<ul style="list-style-type: none"> Achieve key site government acceptance. Achieve ORD at 21 of 21 sites. Commence tech refresh.

(F) En Route Modifications

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
En Route Modifications. Improve the FAA system efficiency goal by replacing aging or obsolete components of the en route automation system. The En Route Modification project will replace obsolete components such as system processors and upgrade and modernize the controller displays and the infrastructure that supports those displays. Replacing obsolete equipment is a necessary part of ensuring reliability and maintainability of the en route automation system.		<ul style="list-style-type: none"> Continued to develop DSR radar-console display processing technical upgrade. Developed and began deployment activities for main display monitor (MDM) replacement, accompanied by relocation of VSCS electronic module (VEM) and position electronic module (PEM) hardware. Coordinated and demonstrated display and display thread computer-human interface (CHI) development and functional upgrade requirements definitions with air traffic display system replacement evolution team, Professional Airways System Specialists, and National Air Traffic Controllers Association. Developed design specifications and change packages for technology refresh of DSR storage and support devices
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Continue developing data-console processor technical upgrade, simultaneously providing critical capacity and performance improvements supporting URET functionality. Deploy MDM replacement and associated hardware accommodating VEM/PEM relocation. 	<ul style="list-style-type: none"> Continue deployment of MDM replacement and associated hardware accommodating VEM/PEM relocation. Complete development of data-console processor technical upgrade and initiate deployment. Initiate engineering and development of radar-console processor and display thread technical upgrade solution, simultaneously providing critical infrastructure upgrades supporting ERAM. 	<ul style="list-style-type: none"> Complete MDM replacement and associated hardware accommodating VEM/PEM relocation. Complete radar-console processor and display thread technical upgrade development for primary and backup channels; initiate and continue deployment of upgrades. Complete deployment of data-console processor upgrade.

(G) En Route Monitor and Control

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
En Route Monitor and Control (EMAC). Improve the FAA system efficiency by supporting the separation of critical, essential, and routine functions of monitor and control throughout all en route facilities. This project will significantly reduce the number of ARTCC system operation center area monitor and control devices, which decreases software development and training costs, enables consolidated facility and legacy systems to interface with NIMS, provides space for implementing new systems, and provides modern, open, and standardized monitor and control devices.	<ul style="list-style-type: none"> Continued EMAC, which is still in mission analysis phase. Completed exploratory activities. Completed feasibility studies at the Instruction and Interoperability Facility (WJHTC). Completed evaluation report with recommendations.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue EMAC (still in mission analysis phase). • Develop requirements document. • Develop concept of operations. 	<ul style="list-style-type: none"> • Move EMAC to investment analysis phase. • Issue screening information request. • Award integrator contract. 	<ul style="list-style-type: none"> • Deploy phase 1 system. • Achieve IDU for phase 1 system. • Evaluate remaining unconsolidated systems and select highest priority systems for phase 2. • Plan for subsequent phases.

(H) Aeronautical Information and Flight Planning Enhancements

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Aeronautical Information and Flight Planning Enhancements. Support FAA system efficiency goals by enabling cross-border flight data processing and seamless handoff capability that will ultimately lead to NAS-like, efficient cross-border operations between the United States, Mexico, and Canada.		<ul style="list-style-type: none"> • Developed relevant system software, interface, and telecommunications requirements for HCS, DSR, URET, and aeronautical fixed telecommunications network. • Began formal initial requirements document.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Begin operational test of automated international flight plan interface between Houston ARTCC and Mexico area control center. • Complete flight data processing updates for HCS, DSR, and URET. • Complete transition planning activities for the operational use of extended flight plan data NAS-wide in the en route domain. • Complete engineering impact analysis detailing the effect of en route flight data processing enhancements on other domains and systems. 	<ul style="list-style-type: none"> • Begin operational use of the extended flight plan data needed to support cross-border operations. • Complete software updates allowing cross border amendment, modification, and cancellation of previously transmitted flight plan data. • Provide acknowledgement and reject messages to direct-filers for international flight plans. 	<ul style="list-style-type: none"> • Complete software updates allowing automated handoffs across borders. • Support transition of NAS systems in other domains to support international flight data. • Complete transition to a single flight plan format for all domestic and international operations.

(I) FAA Aeronautical Training System - Initial Academy Training System

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
FAA Aeronautical Training System – Initial Academy Training System (IATS). Provide training for students to meet a projected shortfall in certified en route air traffic control specialists due to retirement. The IATS will provide a state-of-the-art replica of the en route environment to meet the complex NAS technical training requirements. The IATS consists of two 10-sector training laboratories and one two-sector development laboratory equipped with a platform running multiple copies of NAS software, DSR workstations, ghost pilot workstations, master instructor workstations, a local area network, and VTABS communication system.		<ul style="list-style-type: none"> • Not applicable.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Develop system/segment specification, system architecture design document, bill of materials, ICD, software requirements document, CHI specification, software design document, hardware design document, and a master test plan. • Conduct an FAA Academy site survey; develop an FAA Academy training system site activation plan. • Conduct system requirements review/system design, and preliminary design/critical design review. 	<ul style="list-style-type: none"> • Complete design. • Develop and produce IATS. • Conduct product integration test and developmental test. • Install and check out IATS system at the FAA Academy. • Achieve government acceptance. 	<ul style="list-style-type: none"> • Conduct operational test. • Conduct field familiarization test and declare IOC. • Conduct ORD. • Begin training new students. • Continue maintenance of system. • Perform tech refresh of servers, ghost pilot personal computers, and master instructor workstations.

4B02: Air Route Traffic Control Center Building Improvements/Plant Improvements;

• Air Route Traffic Control Center Modernization

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Air Route Traffic Control Center (ARTCC) Modernization. Support operational efficiency and effectiveness in maintaining the integrity of 21 ARTCCs, three CERAP facilities, and the ATCSCC; and ensure facility sustainment, modernization, and expansion to support air traffic control operations. This will aid in the integration and transition of new NAS systems within ARTCCs, CERAPs, and the ATCSCC and in managing the lifecycle of these facilities.	<ul style="list-style-type: none"> • Initiated two M-1 control room/automation wing, second floor, and modernization projects. • Initiated two M-1 control room modernization projects. • Identified and funded mini-modification facility sustainment projects at 21 sites. • Initiated implementation of seven ARTCC fire alarm upgrade projects. • Funded nine facility condition assessments. • Conducted facility administrative space requirements analysis. Transition/Integration Management: <ul style="list-style-type: none"> • Developed standard ARTCC layout drawings and standard transition plan and initiated site-specific, end-state drawings. • Initiated integrated resource requirement document for en route facilities in NAS system deployment and facility modernization.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Modernize air traffic control automation wing, second floor, and M-1 control room at two sites. • Initiate implementation of 14 ARTCC fire alarm upgrade projects. • Conduct seven condition assessments. • Identify and fund mini-modification sustainment projects at 21 sites. • Manage implementation of nine ARTCC fire alarm upgraded projects. <p>Transition/Integration Management:</p> <ul style="list-style-type: none"> • Continue end-state, site-specific drawing revisions. • Conduct facility administrative space requirements analysis. • Manage smooth transition and integration of the NAS system and the en route facility. 	<ul style="list-style-type: none"> • Modernize/renovate M-1 control room at two sites. • Modernize/renovate control wing basement at four sites. • Identify and fund mini-modification sustainment projects at 21 sites. <p>Transition/Integration Management:</p> <ul style="list-style-type: none"> • Complete remaining site-specific, end-state, drawing revisions. • Complete facility administrative space requirements analysis. • Conduct seven condition assessments. • Complete implementation of 21 ARTCC fire alarm upgrade projects. • Manage smooth transition and integration of the NAS system and the en route facility. 	<ul style="list-style-type: none"> • Modernize air traffic control automation wing, second floor, and M-1 control room at five sites. • Modernize/renovate M-1 control room only at four sites. • Modernize Administration wing rehabilitation/expansion at four sites. • Modernize/renovate M-1 control room and control wing basement at one site. • Modernize/renovate control wing basement at 13 sites. • Modernize/renovate automation wing, second floor, only at two sites. • Identify and fund mini-modification sustainment projects at 21 sites. • Conduct seven condition assessments/year <p>Transition/Integration Management:</p> <ul style="list-style-type: none"> • Manage smooth transition and integration of the NAS system and the en route facility.

4B03: Air Traffic Management;

(A) Air Traffic Management Functionally Development/Deployment – Departure Spacing Program

(B) Traffic Flow Management Infrastructure – Traffic Flow Management Infrastructure Modernization

(A) Air Traffic Management Functionally Development/Deployment– Departure Spacing Program

Primary Goal: 2.1/2.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
ATM Functionality Development/ Deployment – Departure Spacing Program (DSP). Continue sustainment of the DSP prototype, transition of DSP to a formal NAS system, and eventual integration of DSP functionality into a modernized TFM infrastructure. This will reduce systemwide delays while facilitating achievement of CDM and free flight operating concepts.	<ul style="list-style-type: none"> • Continued incremental software enhancements/sustainment at New York Metro area facilities. • Completed all site surveys for system expansion prior to suspension of expansion plan. • Deployed phase I systems at Washington ARTCC and PCT. • Deployed DSP integration and operations (DIO) Lab at WJHTC. • Initiated benefits analyses/metrics development for New York operational system.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Expand DSP to selected facilities in Boston area. • Continue to sustain DSP at existing facilities in New York metro area. • Begin planning and activities to baseline existing New York system/prepare for transition to a formal NAS system. • Perform DSP operational concept/operational procedures validation in DIO Lab. • Complete benefits analyses/metrics development for New York metro area operational system. 	<ul style="list-style-type: none"> • Continue activities and documentation to prepare for transition of DSP to formal NAS system/operations funding and execution. • Complete DSP operational concept/operational procedures validation in DIO Lab • Continue to sustain DSP at existing facilities in New York and Boston areas. • Expand DSP to selected facilities in Washington, DC, area. • Consider user requests for enhancements after expansion to Washington is complete 	<ul style="list-style-type: none"> • Complete activities and documentation to transition DSP to formal NAS system. • Transition DSP to operations funding and execution. • Decommission DIO Lab.

(B) Traffic Flow Management Infrastructure – Traffic Flow Management Infrastructure – Infrastructure Modernization

Primary Goal: 2.1/2.1.2/2.1.3

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>Traffic Flow Management Infrastructure (TFM-I) Modernization. Increase integration and interoperability with the overall ATM structure. The TFM-I is a component of the NAS Architecture and provides the TFM decision support systems and tools that help balance growing flight demands with NAS capacity within a dynamic environment. The present TFM-I has evolved through several generations of hardware and software. The software has become increasingly difficult to maintain and modify and will not support emerging system requirements. The architecture platform is overly complicated and congested with multiple communication and network threads, and existing hardware systems are approaching end of shelf life. Additional enhancements planned under modernization will increase integration and interoperability with the overall ATM structure. Modernization will establish a robust, commercially available, and standards-compliant TFM-I. It will support current and future TFM requirements for availability, performance, expandability, human-computer interaction, supportability, and security.</p>	<p>Initiated planning documents for acquisition of TFM-I, requirements definition for platform development, communications efficiency studies, and development of software architecture requirements. Accomplishments include completion of:</p> <ul style="list-style-type: none"> • TFM-I Baseline Functional Audit • Software complexity and software lines of code analysis • TFM-I Business Case • Updated mission needs statement #307 • Initial requirements document (draft) • Statement of work (draft) • System load analysis (ongoing) • Investment analysis (ongoing) • Needs assessment (ongoing)

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue hardware refresh, software redesign and development, and integration of standalone prototype capability. • Communicate program goals and objectives to 	<ul style="list-style-type: none"> • Evaluate and determine final design of modernized TFM-I. • Award contract for final design, development, and deployment. 	<ul style="list-style-type: none"> • Perform site planning, analysis, and key site implementation to refresh current field site workstations; develop database management system consistent with projected capabilities,

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
industry and solicit industry feedback. • Finalize acquisition documents. • Award multiple contracts for phase 1 of TFM modernization acquisition; design competition phase. • Obtain JRC 2A Approval.		planned hardware/software, and communications requirements. • Reengineer TFM architecture that supports improved access to TFM information and integration of standalone capabilities.

4C02: Federal Aviation Administration Telecommunications Infrastructure;

- Federal Aviation Administration Telecommunications Infrastructure

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Federal Aviation Administration (FAA) Telecommunications Infrastructure (FTI). Improve system efficiency by integrating operational telecommunications services and by providing highly reliable telecommunications that are critical to the NAS. These services will provide lower costs, improved bandwidth utilization, improved flexibility and security, and modern business processes.		• Awarded FTI contract. • Completed development of telecommunications information management system ordering capability for FTI. • Completed ARTCC telecommunications modernization for FTI at New York Center.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
• Complete factory test for transition baseline. • Complete development of network management and operations user interface. • Complete integration testing at WJHTC. • Complete operational testing at WJHTC.	• Achieve SCAP. • Begin phase I transition of 27 sites (includes ARTCC to ARTCC trunks). • Initiate transition of leased interfacility NAS communications system and national Airspace data interchange network II. • Achieve initial ISD for FTI. • Initiate phase II of the transition schedule (325 sites). • Complete development of integrated business system user interface.	• Complete phase I transition. • Complete transition of phase II (325 sites).

4C03: Air-to-Ground Communications Infrastructure;**(A) Communications Facilities Enhancement**

- Communications Facilities Enhancement – Expansion
- Communications Facilities Enhancement – Air-to-Ground Communications Radio Frequency Interference Elimination
- Backup Emergency Communications Replacement

(B) Communications Facilities Enhancement - Ultra High Frequency Radio Replacement

- Ultra High Frequency Radio Replacement

(A) Communications Facilities Enhancement**Primary Goal: 2.1**

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Communications Facilities Enhancement (CFE) - Air-to-Ground (A/G) Communications Infrastructure Programs. Enhance operational efficiency and effectiveness through planned improvements to the A/G communications infrastructure (in all NAS environments, both en route and terminal) that include replacing aging and increasingly unreliable equipment, associate sites, and facility improvements, including the establishment of new facilities intended to broaden communications coverage.		<ul style="list-style-type: none"> • Procured CFE 375 replacement radios, equipment racks, antennas, and towers. • Delivered CFE equipment for the next eight choke-point sectors. • Procured and installed radio frequency interference (RFI) equipment to maintain existing communications infrastructure. • Continued backup emergency communications (BUEC) systems integration, site preparation, and installation. Completed one ARTCC. • Procured radio control equipment for new requirements, continued software upgrades, and installed 200 channels.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue BUEC systems integration, site preparation, and installation. Complete two ARTCCs. • Continue BUEC Program: 50 percent complete. 	<ul style="list-style-type: none"> • Conduct CFE site preparation at six sites. • Procure and install RFI equipment to maintain existing communications infrastructure. • Continue BUEC systems integration, site preparation, and installation; complete three ARTCCs. • BUEC Program: 64 percent complete. 	<ul style="list-style-type: none"> • Conduct CFE site preparation at 100 sites. • Procure and install RFI equipment to maintain existing communications infrastructure. • Complete all BUEC systems integration, site preparation, and installation. • Complete 100 percent of BUEC Program.

(B) Communications Facilities Enhancement - Ultra High Frequency Radio Replacement

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Ultra High Frequency (UHF) Radio Replacement Programs. Improve efficiency of communications with the Department of Defense by replacing aging equipment. UHF Radios are required to support military operations.	<ul style="list-style-type: none"> • Not applicable.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Complete source selection activities for UHF radio replacement program. Conduct IOT&E. 	<ul style="list-style-type: none"> Deploy 367 UHF radios. Complete nine9 percent of UHF radio replacement. 	<ul style="list-style-type: none"> Deploy 2,036 UHF replacement radios. Complete 62 percent of UHF replacement.

4C04: Voice Recorder Replacement Program;

- Voice Recorder Replacement Program**

Primary Goal: 1.1/1.1.1, 1.1.2

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
Voice Recording Replacement Program. Improve NAS system efficiency by replacing aging analog voice recording systems with modern digital voice recording systems. These recording systems enable air traffic controllers to effectively record all voice communications between the controllers, pilots, and other ground-based air traffic control facilities, meeting the statutory requirement.	<ul style="list-style-type: none"> Replaced 61 of 530 voice recording systems. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> Replace an additional 46 of 530 voice recording systems. 	<ul style="list-style-type: none"> Replace additional 30 of 530 voice recording systems in 2004. Perform 27 of 346 retrofits to previously delivered systems to bring them up to current hardware and software configurations in 2004. 	<ul style="list-style-type: none"> Replace final 47 of 530 voice recording systems. Award follow-on contract to perform remaining 319 of 346 retrofits to previously procured systems to bring them up to current hardware and software configurations in FY 2005–2007, which will complete all the replacements planned for voice recorder replacement program.

4C05: National Airspace System Infrastructure Management System;

- **National Airspace System Infrastructure Management System – Phase 2**
- **National Airspace System Infrastructure Management System – Phase 2 Tech Refresh**
- **National Airspace System Infrastructure Management System – Phase 3**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
National Airspace System (NAS) Infrastructure Management System (NIMS) – Phase 2. Improve the FAA system efficiency by centralizing information and technical expertise and providing remote monitoring and control capabilities. NIMS phase 2 fields a COTS-based information system that consists of distributed computers and integrated software/database applications for a national operational control center and three strategically located operational control centers (OCC) to support air traffic services in meeting demand for increasing services with diminished resources while maintaining safety. Centralizing information, such as maintenance history, promotes informed, effective maintenance actions. Remote monitoring and control capabilities reduce maintenance personnel travel time and equipment downtime, saving time and money, improving efficiency, and reducing delays. With over 20,000 NAS facilities, many located far from maintenance personnel, reducing travel time and increasing maintenance personnel historical knowledge combine to yield increased service value at a reduced cost.		<ul style="list-style-type: none"> • Deployed enterprise manager functionality at national operations control center and three OCCs. • Consolidated 12 general national airspace systems maintenance control centers into OCCs. • Initiated technology refresh of maintenance data terminals. • Began transitioning fielded remote maintenance monitoring systems to NIMS. • Completed seven7 percent of the system; total completed: 13 percent.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete general national airspace systems maintenance control center into OCC consolidation. • Commission enterprise manager. • Continue technology refresh of maintenance data terminals. • Connect to one NAS legacy systems (Low Power DME Model 1118). • Initiate NIMS connectivity with new NAS systems (ITWS, ATCBI-6). • Complete 8 percent of the system; total completed: 21 percent. 	<ul style="list-style-type: none"> • Deploy facility maintenance logging tool at key site. • Connect to one NAS legacy system. • Connect to seven new NAS systems. • Continue technology refresh. • Complete 14 percent of the system; total completed 35 percent. 	<ul style="list-style-type: none"> • Complete deployment of NIMS functionality to 33 service operations centers and over 300 work centers. • Retire legacy maintenance processor subsystem hardware and software. • Complete technology refresh of maintenance data terminals and servers from phase 1. • Connect to 47 NAS legacy systems—two legacy systems remain entering FY 2009. • Initiate NIMS technology refresh for phase 2 components. • Complete 63 percent of the system; total completed: 98 percent.

4C06: Flight Service Station Modernization;

- Automated Flight Service Stations Facilities Sustainment
- Flight Services Automation System – Power Conditioning Systems Upgrades

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Automated Flight Service Stations (AFSS) Facilities Sustainment. Improve FAA system efficiency by upgrading and repairing AFSS/FSS infrastructure, which includes heating/ventilation and air-conditioning systems, roofs, and fire and life safety upgrades. These upgrades ensure the proper environmental control in operations, equipment, and administrative areas.		<ul style="list-style-type: none"> • Completed uninterruptible power systems (UPS) installations at nine sites. • Completed HVAC upgrades at three sites. • Performed minor infrastructure improvements at 10 sites, including roof and fire life safety, to OSHA standards. • Improved NAS system efficiency by procuring power-conditioning systems for the AFSS to alleviate power problems and accommodate any new load requirement from future systems.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete UPS installations at nine sites. • Complete HVAC upgrades at three sites. • Perform minor improvements at 10 sites, including roof and fire light safety, to meet OSHA standards. • Improve NAS system efficiency by procuring power-conditioning systems for the AFSS to alleviate power problems and accommodate any new load requirement from future systems. 	<ul style="list-style-type: none"> • Remove old facility and infrastructure at four sites. • Complete HVAC replacements at eight sites. • Complete HVAC improvements at two sites. • Reconfigure power distribution at nine sites. • Replace engine generators at five sites. • Perform improvements at 10 sites. • Perform facility expansion at one site. • Improve NAS system efficiency by procuring power-conditioning systems for the AFSSs to alleviate power problems and accommodate new load requirement from future systems. 	<ul style="list-style-type: none"> • Complete UPS installations at 20 sites. • Complete HVAC upgrades at 28 sites. • Perform major rehabilitation at 30 sites, including roof and fire light safety, to OSHA standards. • Improve NAS system efficiency by procuring power-conditioning systems for the AFSS to alleviate power problems and accommodate any new load requirement from future systems.

4C07: Flight Services Automation System Operational and Supportability Implementation System;

- Operational and Supportability Implementation System

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Operational and Supportability Implementation System (OASIS). Provide ongoing operational support, enabling flight service specialists to more efficiently provide weather and flight information to GA pilots. The existing flight services automation system equipment is 1980s technology and is difficult to maintain and support. OASIS will provide significant improvement in the CHI by replacing the existing flight services automation system display with a graphical user interface. Additionally, new ergonomic equipment consoles will be installed.	<ul style="list-style-type: none"> • Procured 15 OASIS systems and installed one OASIS system. • Procured new replacement consoles for 17 AFSSs and installed replacement consoles at 17 AFSSs. • Completed IOT&E. • ISD—deployment to the first 25 AFSSs, approved 6/21/02. • Completed operational readiness declaration—Anderson, SC, AFSS, 7/29/02.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Install up to 12 OASIS systems at AFSSs. • Install new replacement consoles at up to nine AFSSs. 	<ul style="list-style-type: none"> • Procure and install up to 12 OASIS systems. • Conduct IOT&E. 	<ul style="list-style-type: none"> • Procure and install remaining OASIS systems. • Procure and install remaining new replacement consoles. • Install OASIS lease service last system for operational use.

4C09: Flight Service Station Switch Modernization;

- Automated Flight Service Station Voice Switches

Primary Goal: 1.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals	
Automated Flight Service Station (AFSS) Voice Switches. Provide pilots with significantly improved access to flight planning, weather, communications, and emergency services deemed essential to conducting safe and efficient flight. This modernization program will replace the aging, nonsupportable voice switches at 61 AFSSs throughout the NAS and at 14 non-AFSSs located in Alaska. The principal enhancement of this program is a call transfer capability, enabling AFSSs to transfer A/G calls to other AFSSs during periods of low demand. When fully implemented, the call transfer capability will significantly reduce operational costs. Through deployment of modern digital voice switches, the AFSS Voice Switches Program will significantly improve the operational and maintenance aspects of flight service operations.	<ul style="list-style-type: none"> • Awarded automated FSS voice switches contract. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete PDR. 	<ul style="list-style-type: none"> • Conduct factory qualification testing. • Procure three AFSS voice switches systems for OT&E. 	<ul style="list-style-type: none"> • Conduct OT&E and IOT&E in 2005. • Install seven of 61 voice switches to AFSSs in 2006. • Install 11 of 61 voice switches to AFSSs in 2007. • Install 11 of 61 voice switches to AFSSs in 2008.

4C10: Alaskan National Airspace System Interfacility Communications System;

- Alaskan National Airspace System (NAS) Interfacility Communications System (ANICS) Satellite Network – Phase II
- ANICS (Tech Refresh)

Primary Goal: 2.1/2.1.5

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Alaskan National Airspace System (NAS) Interfacility Communications System (ANICS) Satellite Network – Phase II. Improve system NAS efficiency by installing a new satellite telecommunications facility at locations where the FAA has experienced poor performing telecommunications. The increase of telecommunications availability provided by implementing ANICS sites corresponds to a direct increase in the availability of the NAS and improves air safety in Alaska.		<ul style="list-style-type: none"> • Negotiated a firm-fixed price for new ANICS Phase II sites. • Purchased and engineered two Phase II ANICS sites. • Installed one new Phase II ANICS sites; site is undergoing acceptance testing.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Purchase and engineer six Phase II ANICS sites. • Install eight new Phase II ANICS sites. • Bring online eight Phase II ANICS sites. • Improve communications at eight sites. • Correct any installation discrepancies. • Correct joint acceptance inspection (JAI) discrepancies. • Cut over circuits to operational sites. 	<ul style="list-style-type: none"> • Install seven new Phase II ANICS sites. • Bring online seven Phase II ANICS sites. • Improve communications at seven sites. • Correct any installation discrepancies. • Correct JAI discrepancies. • Cut over circuits to operational sites. 	<ul style="list-style-type: none"> • Install three new Phase II ANICS sites. • Bring online three Phase II ANICS sites. • Improve communications at three sites. • Correct any installation discrepancies. • Correct JAI discrepancies. • Cut over circuits to operational sites.

4C11: Electrical Power Systems – Sustain/Support;

- Power Systems Sustained Support

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Power Systems Sustained Support. Improve NAS facilities availability and reliability by reducing the potential for power outages. The electrical power systems program sustains existing power systems and training maintenance personnel, resulting in improved efficiency, and will increase the safety of FAA employees working on power projects.	<ul style="list-style-type: none"> • Replaced UPS at 13 of the 176 TRACONs. • Replaced ARTCC critical essential power system batteries at 12 of the 21 ARTCCs. • Improved ARTCC critical essential power system at five of the 21 ARTCCs. • Replaced 66 engine generators out of the 2,250-engine-generator inventory.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Replace UPS at five of the 176 ATCTs/TRACONS. • Improve ARTCC critical essential power system at five of the 21 ARTCCs. • Sustain existing NAS power systems at about 100 facilities by replacing engine generators, power cable, direct current bus system; batteries; and lightning protection, grounding, bonding and shielding. 	<ul style="list-style-type: none"> • Sustain existing NAS power systems at about 130 facilities by replacing engine generators, power cable, direct current bus system; replacing batteries, and UPS, and lightning protection, grounding, bonding, and shielding. 	<ul style="list-style-type: none"> • Critical power distribution system training facility at Oklahoma City, OK (FY 2005). • Sustain existing NAS power systems at about 420 facilities by replacing engine generators, power cable, direct current bus system, replacing batteries, and UPS, and lightning protection, grounding, bonding, and shielding.

4C12: National Airspace System Recovery Communications;

- National Airspace System Command and Control Communications Program

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Recovery Communications – Command and Control Communications (C3) Program. Provide system efficiency to the NAS by ensuring that during emergencies, C3 will be able to provide time-critical public and NAS information between the Administrator, the Administrator's staff, key regional managers, the DOT, and other national-level executive personnel. Because of September 11, 2001, modernization of several Agency Command and Control facilities was required to ensure continuity of operations.	<ul style="list-style-type: none"> • Modernized the Washington Operations Command Complex • Delivered 211 of 490 secure telephone equipment (STE) items. • Designed VHF operational test network. • Delivered and installed 81VHF equipment units. • Tested and implemented wireless notification system (WNS) equipment at three of 30+ sites. • Procured WNS software for 30 sites. • Delivered, installed, and provided training for 55 secure facsimile machines. • Modernized other classified facilities. • Implemented two automated message-handling systems.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005-2008 Performance Output Goals
<ul style="list-style-type: none"> • Award VHF/FM contract. • Design and install defense messaging system network at 30 of 40+ sites. • Implement 105 out of the remaining 174 STE. • Implement 695 VHF/FM handhelds out of 5000+. • Implement 109 VHF/FM repeaters out of 1200+. • Implement 50 out of 600+ VHF/FM base stations. • Enhance and upgrade communications support 	<ul style="list-style-type: none"> • Upgrade and enhance satellite telephone network phones at 39 of 39 sites. • Delivered two out of two secure conferencing systems. • Implement seven additional secure fax machines. • Modernize other classified facilities. • Implement remaining (95 out of 125) portable and fixed satellite systems. 	<ul style="list-style-type: none"> • Complete deployment of the VHF/FM network. • Complete procurement of C3 high-frequency systems. • Implement P3I. • Complete modernization of classified facilities. • Provide communication support team support as required.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005-2008 Performance Output Goals
team equipment (12 teams). • Implement six additional secure fax machines. • Procure and implement 30 out of 125 portable and fixed satellite systems. • Implement 28 sites with WNS. • Procure secure cell phones (10 out of 40).	• Complete the current defense messaging system design implementation (10+ sites). • Implement remaining STE requirements (174). • Procure remaining secure cell phones (30 units).	

4C13: Aeronautical Center Infrastructure Modernization;
 • **Aeronautical Center Infrastructure Modernization**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Aeronautical Center Infrastructure Modernization. Improve operational efficiency and effectiveness by providing up-to-date facilities and supporting infrastructure that meet the needs of the FAA mission support organizations located at the Aeronautical Center.		• Completed construction of the first construction phase of the logistics support facility (LSF) structural upgrade and began second phase. • Started designing third phase of the LSF structural upgrade. • Installed telecommunications equipment, including telephone system cabling, network equipment, and NOTEL telephone switch upgrade. • Designed and awarded first phase of Civil Aeromedical Institute (CAMI) building renovation.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
• Begin construction of third phase of the LSF structural upgrade; complete design for fourth phase. • Install telecommunications equipment, including telephone system cabling, network equipment, and NORTEL telephone switch upgrade. • Design and award second construction phase of CAMI renovation.	• Complete third phase of the LSF structural upgrade; complete design for the fifth phase; and begin fourth phase construction. • Provide NORTEL telephone switch upgrade; install telecommunications equipment. • Design and award third construction phase of CAMI renovation. • Design flight inspection building renovation. • Design storm sewer expansion.	• Complete design and construction of remaining phases of the LSF structural upgrade. • Complete installing telecommunications systems. • Upgrade NORTEL switch. • Begin next-generation telecommunications system modernization and provide telephone switch upgrade. • Complete design and construction of remaining phases of the CAMI Building renovation. • Complete renovation of flight inspection building. • Complete expansion of storm sewer system. • Design and construct multipurpose building; complete renovation, except final phase.

Activity 5: Improve the Efficiency of Mission Support

5A01/5A02: National Airspace System Improvement of System Support Laboratory /FAA William J. Hughes Technical Center Facilities;

- National Airspace System Improvement of System Support Laboratory
- Technical Center Facilities

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
National Airspace System Improvement of System Support Laboratory. Improve system efficiency in the NAS by providing the agency's laboratory infrastructure at the WJHTC for the development, testing, upgrades, and second level field support of CIP programs. Each CIP program supported by these laboratories contributes to one or more of the FAA and DOT goals.		<ul style="list-style-type: none"> Sustained and supported FAA WJHTC Laboratories and Test Facilities; supported testing and development of new NAS programs and provided second-level support to operational sites. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> Sustain and support FAA WJHTC Laboratories and Test Facilities. 	<ul style="list-style-type: none"> Sustain and support FAA WJHTC Laboratories and Test Facilities. 	<ul style="list-style-type: none"> Sustain and support FAA WJHTC Laboratories and Test Facilities. 	

5A03: Technical Center Building and Plant Support;

- William J. Hughes Technical Center Infrastructure Sustainment

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
William J. Hughes Technical Center (WJHTC) Infrastructure Sustainment. Improve system NAS efficiency by refurbishing and replacing aging, obsolete facilities, systems, and equipment. These activities will ensure the WJHTC's ability to sustain its physical structures in its efforts to develop and support a safe, secure, and efficient global aviation system.		<ul style="list-style-type: none"> Performed infrastructure upgrades at five R&D facilities at the WJHTC (refurbished/replaced HVAC systems, electrical power panels, lighting systems, and exterior glazing). Completed building #301 interior renovation/emergency generator synchronization. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> Replace the exterior glazing in building #301. Replace the building #303 boiler stack. Complete the building #300 interior upgrade design. 	<ul style="list-style-type: none"> Replace building #300 mechanical equipment (phase 1). Make water distribution system improvements. Perform building #303 fire-suppression upgrades. Replace building #300 primary feeder. 	<ul style="list-style-type: none"> Conduct building #300 mechanical equipment replacement program (phase 2). Renovate building #275 and expand building #277. Replace electrical transformers at various WJHTC facilities. Complete roadway improvements at WJHTC. Replace one refrigeration machine in building #303. Remediate storm water system. Replace underground electric cable. 	

5A05: Department of Defense/Federal Aviation Administration Facilities Transfer;

- **Department of Defense/Federal Aviation Administration Air Traffic Control Facility Transfer/Modernization**

Primary Goal: 2.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Department of Defense (DoD)/Federal Aviation Administration (FAA) Air Traffic Control Facility Transfer/Modernization. Engineer, deploy, and modernize new civilian airspace transferred to the FAA by the Department of Defense. The outcome goals are improved reliability and capacity of the NAS.		<ul style="list-style-type: none"> • Enhanced the reliability of communications in northern California via a long distance radio communications link backbone loop (Vandenburg/Pt. Mugu/Edwards/Paso Robles, with telecommunications, microwave, power supply, short-term emergency power, security, etc.). • Enhanced the reliability of communications at Pt. Lay, AK. • Digitized radar at Castle, CA. • Engineered requirements to upgrade radar at 29 Palms and El Centro, CA. • Supported the air traffic operations of Ft. Sill, OK, Army radar approach control.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Acquire new systems to enhance radar data accuracy and reliability. • Resolve unsatisfactory condition reports. 	<ul style="list-style-type: none"> • Acquire new systems to enhance radar data accuracy and reliability. • Resolve unsatisfactory condition reports. 	<ul style="list-style-type: none"> • Acquire new systems to enhance radar data used by air traffic controllers. • Resolve unsatisfactory condition reports.

5A09: Federal Aviation Administration Buildings and Equipment;

- (A) Federal Aviation Administration Buildings and Equipment Sustain Support**
- (B) Seismic Safety Risk Mitigation**

(A) Federal Aviation Administration Buildings and Equipment Sustain Support

Primary Goal: 2.1/2.1.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Federal Aviation Administration (FAA) Buildings and Equipment Sustain Support. Achieve the optimum level of customer satisfaction that should result from sustainment actions, expansions, and modifications. This also includes improving NAS efficiency by providing facility replacements and upgrades to reduce maintenance requirements associated with an aging infrastructure.	<ul style="list-style-type: none"> • Performed projects at the facilities supporting the benchmark airports. • Performed about 503 projects in FY 2002. • Upgraded five unstaffed facilities. • Replaced or refurbished 10 shelters. • Installed 23 engine generators.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Support the OEP to sustain the navigation aid (NAVAID) and General NAS facilities at the benchmark airports. • Completely refurbish at least five unstaffed facilities. • Install a minimum of 10 engine generators. • Replace a minimum of 10 shelters. • Reduce the deferred maintenance backlog. • Implement the RESTORE Web tool. 	<ul style="list-style-type: none"> • Support the OEP to sustain the NAVAID and General NAS facilities at the benchmark airports. • Completely refurbish at least five unstaffed facilities. • Install a minimum of 10 engine generators. • Replace a minimum of 10 shelters. • Reduce the deferred maintenance backlog. 	<ul style="list-style-type: none"> • Continue to repair and upgrades the most in-need/critical facilities. • Support the OEP to sustain the NAVAID and General NAS facilities at the benchmark airports. • Completely refurbish at least five unstaffed facilities annually. • Install a minimum of 10 engine generators annually. • Replace a minimum of 10 shelters annually. • Continue power and HVAC repairs/replacements to facilitate installation of new equipment, as appropriate. • Reduce the deferred maintenance backlog.

(B) Seismic Safety Risk Mitigation

Primary Goal: 4.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
Seismic Safety Risk Mitigation Program. Complete evaluation of at risk buildings at the end of FY 2006 and mitigate the unacceptable risks by the end of FY 2020.		<ul style="list-style-type: none"> • Initiate seismic evaluations of Memphis ARTCC, Seattle AFSS and ARTCC, and Salt Lake City ARTCC. • Briefed three product teams on seismic safety requirements for new equipment and new construction.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Complete seismic evaluations of Seattle AFSS and ARTCC, and Salt Lake City ARTCC. • Initiate Seismic evaluation of Puerto Rico ARTCC, Anchorage ARTCC, Oakland ARTCC, and Los Angeles ARTCC. • Compile biennial seismic safety report for the Office of the Secretary of Transportation. • Continue to brief product teams and new programs. 	<ul style="list-style-type: none"> • Complete seismic evaluations of Puerto Rick ARTCC and Anchorage ARTCC. • Award the contract for seismic safety training. • Initiate seismic safety training for FAA building design engineers, architects, Real Estate Contracting Officers, Regional Associate Program Managers, and others. • Continue to brief product teams and new programs. 	<ul style="list-style-type: none"> • Not applicable.

5A11: Computer Aided Engineering and Graphics Modernization;

- Computer-Aided Engineering Graphics Replacement

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>Computer-Aided Engineering Graphics (CAEG) Replacement. Improve system efficiency at all regions and centers by using enhanced computer-aided design and drafting systems, coupled with a secure Web-based engineering drawing access system to facilitate drawing access, retrieval, and update. This increases the FAA's ability to implement capital improvements with correct and timely information. The system meets increasing user access needs by expanding the system and by providing a flexible system interface to a suite of state-of-the-art graphical modeling and analysis tools. This will be done in conjunction with access to an underlying secure and reliable engineering library to augment the transition engineering process.</p>	<ul style="list-style-type: none"> • Fielded the airport system v 1.0 with requisite training material and curriculum. • Upgraded airport system v 1.0 to include 7460-1 aeronautical case studies; upgraded to threshold siting analysis. • Migrated radio coverage analysis system (RCAS) v10.2.1 to the Windows NT platform and server via a centralized CITRIX solution. • Upgraded/increased CITRIX server licenses by 30 percent for additional access points to the RCAS/Airport System applications. • Completed beta testing of RCAS v11. • Upgraded CAEG database engine to v Oracle 9i to increase system access time, reliability, and maintainability. • Provided rapid application of all Windows security patches to prevent security breach of CAEG system. • Sustained national CAEG system maintenance vehicle to ensure optimum system availability. • Installed electronic document management system at a central site and completed implementation testing at a regional site. • Developed an engineering database for 3,000 engineering drawing file images with metadata for 16,650 drawings. • Began testing new licensing concept (Bentley Portfolio), offering enhanced management and flexibility in terms of breadth of applications.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Implement next generation of Microsoft operating system and CAEG servers. • Provide national training to the nine regions for the RCAS v11. • Finish implementing the CAEG backup/recovery plan. • Provide rapid application of all Windows security patches to prevent breach of CAEG system. • Replace CITRIX servers and begin the deployment of a secondary backup site. • Sustain national CAEG system maintenance vehicle to ensure optimum system availability. • Complete feasibility study for adoption of COTS spatial analysis tools as a possible complement or replacement for the 	<ul style="list-style-type: none"> • Complete the CAEG SCAP. • Upgrade the underlying operating system and database management system software to the latest revision. • Expand access to the electronic document management system to as many as 300 additional users. • Upgrade estimated 16 low-production plotters with more modern and versatile plotters. • Replace outdated 200 MHz NT servers with modern servers for improved performance. • Further develop the engineering database with 	<ul style="list-style-type: none"> • Phase in next generation of CAEG hardware and software systems. • Provide rapid application of all current operating system security patches to prevent breach of CAEG system. • Sustain national CAEG system maintenance vehicle to ensure optimum system availability. • Investigate virtual public network solution for the CAEG system and develop study.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<p>in house developed software.</p> <ul style="list-style-type: none"> • Further develop an engineering database with 3,000 engineering drawing file images and corresponding metadata and serve via a secure intranet mechanism with the planned inclusion of the remaining 13,650 drawings. • Institute performance metrics for the CAEG program. • Implement and publish CAEG Web services for distribution throughout the agency. 	<p>3,000 engineering drawing file images and corresponding metadata and serve via the intranet with a remainder of 10,650 drawings.</p> <ul style="list-style-type: none"> • Monitor and enhance CAEG performance metrics. • Update/replace existing COTS spatial analysis tools per the recommendation of feasibility study. 	<ul style="list-style-type: none"> • Complete engineering library with the remaining 10,350 engineering drawing file images and metadata. • Provide enhancements to the RCAS and airports system as needed.

5A12: Information Technology Integration;

- **Information Technology Integration**

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>Information Technology (IT) Integration. Improve operational efficiency and effectiveness by reducing the cost of delivering IT services, without reducing service quality, by optimizing IT decisions and resources across the agency.</p>	<ul style="list-style-type: none"> • Continued to integrate improved processes for certifying software aspects of airborne and ground systems to ensure safety. • Enhanced the FAA metadata repository from a limited IOC to a COTS solution with expanded capability. • Completed phase I of the Enterprise Architecture for Administrative Systems. • Achieved a rating of “green” on the e-Gov scorecard through completion of the e-Gov Strategy, Section 508 Compliance Plan, and enterprise architecture development plan. • Developed the Agency’s business planning and portfolio management initiatives. • Established the Section 508 Compliance Program. • Established a governance process for implementing NAS data standards.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue to integrate improved processes for certifying software aspects of airborne and ground systems to ensure NAS safety. • Complete identification and adoption of “best practices” for safety and security engineering and begin integrating safety/security processes into the FAA’s acquisition management and systems engineering lifecycle processes. • Implement the initiatives of the agency’s Data Management Program and Business Planning and Portfolio Management Programs to achieve increased business value. • Complete phase II of the Enterprise Architecture to include development of the Architecture for Mission-Support Systems, and baseline the “to be” Architectures for Administrative Systems and Mission-Support Systems. • Achieve full compliance with the Government Paperwork Elimination Act to automate information collections and processes, including digital signature capability. • Train Webmaster, Web designers, and managers in Section 508 Compliance requirements. • Identify mission-critical data elements and develop an additional 250 data element standards. 	<ul style="list-style-type: none"> • Implement initiatives that reduce software costs, software-induced cost overruns, schedule slippages, and post-deployment defects in NAS and other systems. • Develop guidelines for FAA systems to enhance safety and reliability characteristics. • Continue integrating safety and security engineering processes to better NAS and non-NAS systems • Incorporate best practices for IT capital planning and investment control into the agency lifecycle management policies and processes, and establish a capital planning process for significant IT investments not currently covered under the existing acquisition management system process. • Implement a model of the enterprise architecture consistent with the OMB and DOT guidance. • Fully implement Section 508 Compliance requirements in all electronic information technology procurements. • Standardize remaining mission-critical data elements. 	<ul style="list-style-type: none"> • Continue to integrate improved processes for certifying software aspects of airborne and ground systems to ensure NAS safety. • Continue to implement the initiatives of the agency’s Data Management Program and Business Planning and Portfolio Management Programs to achieve further business value • Extend, align, and evolve process improvement models, methods, and tools that reflect best practices to enable improvement in performance of both NAS and non-NAS systems.

5A13: Operational Data Management System - National Airspace System Aeronautical Information Management Enterprise System;

- **National Airspace System Aeronautical System Resource**

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>National Airspace System Aeronautical System Resource. Provide through the Notice to Airmen (NOTAM) automated distribution system standardization within the NAS, timeliness of delivery across the NAS, a centralized NOTAM source, and state-of-the-art entry and delivery of critical safety information using dedicated telecommunications network. This project stems from the fact that in June 2001, an FAA memorandum identified two incidents that highlighted some weakness in the current NOTAM system. It emphasized the urgent need for a replacement system to help ensure that critical safety information reaches the pilot and other system users. The NOTAM automated distribution solution includes towers/TRACONS, FSSs, and ARTCCs of the NAS and also the ATCSCC in Herndon, VA.</p>	<ul style="list-style-type: none"> • Installed Web-based NOTAM capability at Federal contract towers. • Procured telecommunication network for 32 proofs of concept sites. • Conducted user testing on tower/TRACON automated NOTAM software that will replace Web-based NOTAM capability. • Began developing and testing flight service and air route traffic control software.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Install automated NOTAM software capability at FAA tower (Peachtree DeKalb, Atlanta, GA). • Conduct automated NOTAM test at 32 proof of concept sites in southern and northwest mountain regions. • Make production rollout decision. 	<ul style="list-style-type: none"> • Procure hardware/spares for NOTAM automated solution. • Install 75 sites with NOTAM automated solution. • Procure dedicated telecommunications network for 75 sites. • Develop and train air traffic/airways facilities workforce on NOTAM automated solution. 	<ul style="list-style-type: none"> • Procure hardware/spares and install remaining NOTAM automated solutions. • Train air traffic/airways facilities workforce on NOTAM automated solution. • Commission systems.

5A14: Logistics Support Systems and Facilities;

- **Logistics Support Systems and Facilities – Asset and Supply Chain Management**

Primary Goal: 2.1/2.1.5

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
Logistics Support Systems and Facilities – Asset and Supply Chain Management (ASCM). Improve operational efficiency and effectiveness throughout the agency by exercising effective control of assets and providing full lifecycle management.	<ul style="list-style-type: none"> • Acquired 540 scanners for asset tagging and data harvesting and developed agency-specific applications for scanners. • Released screening information request and completed screening information request evaluation process. • Completed ASCM phases 2 and 3, A to G, build plan. • Identified and developed definitions for 1,000 FAA asset data elements. • Acquired development hardware for logistical center support system (LCSS). • Began LCSS modeling. • Acquired COTS software for prototyping LCSS business models. • Interface legacy systems to meet DELPHI requirements.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Begin tagging field spares inventory, real property, personal property, and government-furnished property at contractor depots. • Field 540 scanners. • Complete ASCM request for offer development. • Complete investment analysis following JRC-2a investment decision. • Complete union negotiations for fielding personal property scanners. • Acquire and install production platforms for data harvesting. • Identify host sites for national ASCM servers. • Incorporate ASCM enterprise asset management (EAM) structure into FAA Chief Information Officer's (CIO) Enterprise Architecture. • Complete LCSS business scenarios and develop methodology for integrating LCSS with DELPHI. • Continue prototyping LCSS business scenarios on COTS software package. 	<ul style="list-style-type: none"> • Acquire and field 600 scanners. • Continue tagging personal and real property. • Complete JRC-2b Investment Decision. • Release Request for Offer and evaluate proposals. • Continue EAM CIO data stewardship development efforts; goal = 300 data elements stewardship identified. • Complete prototyping LCSS software suites, acquire production platform, and license 3,000 LCSS users. 	<ul style="list-style-type: none"> • Field 600 scanners. • Continue tagging real and personal property. • Award ASCM contract and acquire development platform and software. • Complete development to ASCM build A (replaces legacy personal property system software), acquire 500 licenses for fielding the same, and continue EAM CIO data stewardship development efforts; goal = 300 data elements stewardship identified. • Complete LCSS licensing. • Field 600 scanners to continue the tagging effort. • Acquire developmental software and field ASCM builds B to E and continue EAM CIO data stewardship development efforts; goal = 900 data elements stewardship identified.

5A15: Test Equipment – Maintenance Support for Replacement;

- Test Equipment Modernization/Replacement

Primary Goal: 2.1

Program Name and Outcome Goal	FY 2002 Program Accomplishments/Status Performance Output Goals
<p>Test Equipment Modernization and Replacement. Improve FAA's system efficiency by procuring the test equipment necessary to ensure reliable NAS operation. As the FAA modernizes the NAS, it must purchase appropriate test equipment designed to test the systems being installed. Without such equipment, equipment cannot be repaired efficiently, and outages would be unnecessarily prolonged.</p>	<p>The National Test Equipment Program procured the following test equipment items in FY 2002:</p> <ul style="list-style-type: none"> • 18 signal generators. • Four electronic counters. • Five power meters. • 130 oscilloscopes.

Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<p>The test equipment national program office will purchase:</p> <ul style="list-style-type: none"> • 10 signal generators, which are used as a source to test, align, and verify NAS equipment. • 40 scope meters. • 40 oscilloscopes to support higher frequency requirements such as radar. • 12 spectrum analyzers. • Three frequency counters, which determine the frequency of an unknown signal or a nonworking transmitter 	<ul style="list-style-type: none"> • Purchase 556 oscilloscopes to support higher frequency requirements such as radar. 	<ul style="list-style-type: none"> • Purchase signal generators, frequency counters, and test sets.

5A16: Facility Security Risk Management;

- **Facility Security Risk Management**

Primary Goal: 5.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
<p>Facility Security Risk Management. Improve and/or enhance physical security at all FAA staffed facilities in accordance with FAA Order 1600.69a. This order delineates requirements for physical security protective measures and establishes standards, objectives, procedures, and techniques to protect FAA employees, agency property, facilities, and contractors, as well as the public. This order clarifies and updates facility security procedures for all FAA facilities and establishes standards for facility security management, control, and safeguarding of assets and facilities.</p>		<ul style="list-style-type: none"> • Upgraded and accredited 227 facilities. • Developed statement of work for contract maintenance. • Started engineering design at 18 ARTCCs. • Began impact assessment and implementation with bargaining units. • Installed positive access control at 235 facilities.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Upgrade and accredit 42 facilities. • Start engineering design at two ARTCCs. • Start construction at four ARTCCs. • Award maintenance contract for security equipment. • Install positive access control at 19 additional facilities. 	<ul style="list-style-type: none"> • Upgrade and accredit 68 security level I and II facilities. • Start phase II construction at 10 ARTCCs. 	<ul style="list-style-type: none"> • Continue to upgrade and accredit 491 level I, II, III, and IV facilities.

5A17: Information Security;

- NAS Information Security - Information Systems Security

Primary Goal: 5.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals
National Airspace System (NAS) Information Security – Information Systems Security. Improve FAA safety by safeguarding information through various means, such as information security access, Web-based protection, and activities to “firewall” electronic access. International terrorism has become a major threat to U.S. national security, and there are nation-states that have cyber capability and are unfriendly to the United States. The phenomenal growth of the Internet and the worldwide proliferation of sophisticated computer skills have created a potential to threaten the nation’s critical information infrastructure, including the air traffic control system. The FAA has three objectives in this area. The first objective is to ensure effective preparedness, detection, response, and recovery to cyber attacks. The second objective is to integrate information security efforts into all of acquisition and operation phases to protect FAA people, buildings, and information. The third objective is to support the nation’s efforts to safeguard homeland security, in particular the aviation infrastructure and industry.		<ul style="list-style-type: none"> • Completed construction and achieved FOC of the computer security incident response center (CSIRC). • Completed certification and authorization packages on 6 new National Airspace Systems in accordance with FAA policy. • Completed integrated facility protection at three ARTCCs. • Awarded a technical services support contract for policy, plans, and engineering services to provide subject matter experts to assist in developing FAA-wide cyber policy and guidance.
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue to update the detection tools used by cyber security professionals. • Implement cost-effective countermeasures based on risk assessment reports and intrusion detection analysis of CSIRC data to protect against cyber vulnerabilities. • Conduct penetration testing to ensure electronic boundaries are secure. • Develop policy, plans, and standards to support an agency’s public key infrastructure approach. • Install boundary protection into 10 ARTCCs 	<ul style="list-style-type: none"> • Expand the initial public key infrastructure to key NAS facilities that include ARTCC and TRACON facilities. • Continue the deployment of 10 electronic boundary protection at ARTCCs and begin work on three TRACON facilities. • Continue work on the FAA’s information systems security architecture that calls out the relationships among systems and applications in providing cyber security. • Implement secure applications and data within the boundary of key NAS information systems that exchange air traffic control data. • Improve intrusion detection and analysis capability at the CSIRC, which monitors FAA-wide area networks. • Develop architecture and engineering efforts for alternative solutions to secure the local area network from external and internal cyber threats. Prototype alternatives to assist the FAA in determining which designs meet the needs of the NAS. 	<ul style="list-style-type: none"> • Continue work in integrated facility protection until all ARTCC and TRACON facilities are completed. • Evaluate and acquire enhanced tools used by the CSIRC to address complex and rapidly changing cyber threats and vulnerabilities. • Evaluate and acquire enhanced countermeasures/protection devices that address discovered cyber threats and vulnerabilities.

5B01: National Airspace System Facilities Occupational Safety and Health Administration and Environmental Standards Compliance;

- **National Airspace System Facilities Occupational Safety and Health Administration**
 - (A) Occupational Safety and Health Administration Compliance
 - (B) Fire Life Safety for Air Traffic Control Towers
 - (C) Energy Conversation Implementation
 - (D) Environmental Standards Compliance
- **National Airspace System Facilities Occupational Safety and Health Administration - Environment Policy Development**

Primary Goal: 4.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
National Airspace System (NAS) Facilities Occupational Safety and Health Administration (OSHA)/ Environmental Standards Compliance. Implement programs for OSHA and Environmental Compliance, fire life safety (FLS), and energy conservation; ensure a safe and healthful workplace for FAA employees; and protect the environment through sound environmental and energy efficient practices.		<ul style="list-style-type: none"> • Developed fall protection program to protect employees working at heights. • Developed electrical safety program to protect employees from electrical hazards. • Developed confined space entry program to protect employees from confined-space hazards. • Developed lockout/tagout program to protect employees from electrical shocks. • Supported the acquisition management organizations by providing occupational safety and health (OSH) and environmental technical assistance throughout the acquisition process. • Performed environmental compliance plan (ECP) follow-up reviews in two regions/centers. • Reduced energy consumption in FAA administrative buildings by 4 percent. • Continued to provide maintenance training for technicians responsible for FLS systems in ATCTs; initiated training for technicians responsible for FLS systems in ARTCCs; and continued FLS upgrades to ATCTs. 	
Program Plan FY 2003 Performance Output Goals	Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals	
<ul style="list-style-type: none"> • Implement a fall protection program to protect employees working at heights. • Support the acquisition management organizations by providing OSH and environmental technical assistance throughout the acquisition process. • Perform ECP followup reviews in three regions/centers. • Implement energy-efficient/conservation efforts. • Continue to provide maintenance training for technicians responsible for FLS systems in ATCTs and ARTCCs and continue FLS upgrades to ATCTs. 	<ul style="list-style-type: none"> • Support the acquisition management organizations by providing OSH and environmental technical assistance throughout the acquisition process. • Perform ECP followup reviews in two regions/centers. • Continue to implement FLS upgrades for ATCTs. • Continue to implement agencywide fall protection program to protect employees working at heights. • Continue to implement electrical safety program to protect employees working on electrical systems. • Continue to implement lockout/tagout program for energy-isolating devices to protect employees working on machines or equipment. • Continue to implement confined-space safety program. • Fund local energy efficiency initiatives that comply with Executive Order 13123. 	<ul style="list-style-type: none"> • Continue to implement FLS upgrades for ATCTs. • Continue to implement energy-efficient/conservation efforts. • Support the acquisition management organizations by providing OSH and environmental technical assistance throughout the acquisition process. • Complete ECP followup reviews in all regions/centers. • Continue to implement written safety programs. 	

5B02: Fuel Storage Tank Replacement and Monitoring;

- **Fuel Storage Tanks**

Primary Goal: 4.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Fuel Storage Tanks. Sustain fuel storage tank systems in the FAA's operational inventory to support continued operation of mission-critical activities and to reduce or eliminate environmental damage to communities and the environment.		<ul style="list-style-type: none"> • Conducted a pilot test of fuel storage tank optical monitoring system with remote monitoring maintenance capability. • Finalized FAA Order 1050.16. • Integrated environmental compliance program goals into FY 2002 spend plan categories and into Fuel Storage Tank Operation Management Plans. 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue tank-removal efforts associated with decommissioned Beacon sites. 		<ul style="list-style-type: none"> • Continue replacement/sustainment of about 3,000 fuel storage tanks. • Complete closure of storage tank efforts associated with decommissioned sites. 	<ul style="list-style-type: none"> • Provide lifecycle replacement/sustainment of fuel storage tank systems. • Provide remediation efforts after fuel storage tank system replacements through 2008.

5B03: Hazardous Materials Management;

- **Environmental Cleanup / Hazardous Materials**

Primary Goal: 4.1

Program Name and Outcome Goal		FY 2002 Program Accomplishments/Status Performance Output Goals	
Environmental Cleanup/Hazardous Materials. Ensure compliance with statutory mandates and identify appropriate procedures for proactively managing hazardous materials to prevent future environmental contamination and notices of violations. This program will improve the quality of human health and the environment by removing hazardous carcinogenic materials and materials that destroy living organisms (animal or plant).		<ul style="list-style-type: none"> • Performed surface debris removal at Annette Island, AK. • Initiated assessment of mercury contamination at FAATC, Atlantic City, NJ. • Performed environmental assessments at multiple ARSR sites. • Continued remedial actions for environmentally contaminated sites. • Completed contaminated soil and water remediation at Area of Concern 29, Atlantic City, NJ. 	
Program Plan FY 2003 Performance Output Goals		Program Plan FY 2004 Performance Output Goals	Key Events FY 2005–2008 Performance Output Goals
<ul style="list-style-type: none"> • Continue remedial assessments of contaminated areas at FAATC, Atlantic City, NJ. • Identify extent of contamination at Annette Island, AK. • Develop Federal Interagency Remediation Plan for Annette Island, AK. • Complete remediation activities at seven ARSR sites (five in southern region and two in northwest mountain region). 		<ul style="list-style-type: none"> • Continue remedial actions for environmentally contaminated sites. • Perform remediation activities for contaminated areas at FAATC, Atlantic City, NJ. • Conduct environmental assessments for 10 ARSR sites. 	<ul style="list-style-type: none"> • Treat and dispose of hazardous wastes at Annette Island, AK. • Treat and dispose of fuel-contaminated soil at Tanuna, AK. • Treat and dispose of PCB (polychlorinated biphenyl) and fuel-contaminated soil at McGrath, AK. • Perform remediation activities for contaminated areas at FAATC, Atlantic City, NJ.